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NOTICE.

The State Society meets in San Francisco April 17th, 18th and 19th. This will be the Semi-Centennial year and the meeting will be an unusually good one.

Two exceedingly interesting documents from county societies have reached the office during the past month; both relate to "contract" or "lodge" practice. Elsewhere we print a statement of attack and reply, from the local papers of Shasta County; the dignified attitude which that county society has assumed is to be highly commended. It seems but natural that educated physicians should object to being classed as wholesale merchants whose services are to be doled out at 10 cents per head. From Los Angeles came the bulletin of the Los Angeles County Medical Association, giving the program for the month and containing some interesting announcements. (Incidentally, in passing, it is to be noted that the association met every Friday during January; this plan of weekly meetings, advocated by Dr. McCormack, is a most valuable one, and every county society should arrange for such meetings and for more systematic work.) The members of the Los Angeles County Association were, recently, asked to vote upon the question of approval or disapproval of "contract or lodge practice." The result of the ballot is certainly startling. Approximately 150 ballots were cast (not a majority of the membership)

and of these, nearly half (about 73) voted in favor of "lodge practice"! To those members of the Los Angeles County Association who voted in favor of this disgraceful class of practice, we earnestly commend a careful study of the Shasta County Society statement, of Dr. McCormack's report on conditions in California, and of the general condition of physicians in a large part of the eastern and central portion of the United States; where the average fee for medical attendance is less than 50 cents—which result has been brought about largely, if not wholly, through "contract and lodge practice."

We, in California, have always enjoyed a measure of prosperity unknown to many states for a generation or more. As a result of good fees, the people of our state are served by physicians who are probably somewhat above the general average of the whole country, in ability and in up-to-date-ness, so to speak. But the handwriting is on the wall, and if we do not take heed to it and be guided by the message given us, before we know it our period of prosperity will have ended, and the people of the state will have less competent physicians; for a poorly supported doctor is not an up-to-date doctor, and sooner or later becomes a danger to the community. How would you like to practice medicine at the rate of 50 cents per office visit, and dispense the medicine? That is the case in some sections of the east and it will be the case here, if the "contract practice" evil is to be allowed to grow and develop unchecked. "Lodge practice" spells hasty, inefficient, cheap work to-day, smaller fees to-morrow, and poverty the day after. Is this the condition of affairs which the medical profession of this state wishes to see brought about? If so, then let us do as we have been doing—nothing. In San Francisco there are two old, large and wealthy "dollar a month" institutions, which, together probably represent an accumulation of approximately two millions of dollars. *Every dollar of this accumulated wealth has been paid out of the pockets of California physicians.* Within the last two years a score of contract societies or companies have been started which undertake to furnish medical or surgical attendance—of a sort—to anyone for the small sum of 50 cents per month. Several so-called "lodges" or "fraternal societies"—notably the Eagles and the Foresters—have spread over the state, have arranged to get their medical service from some physician in each community for a fixed—and generally small—sum, and are growing rich. Every dollar in the treasury of these "lodges" is paid out of the pockets of the physicians in our state. In the long run, however, it is the people who suffer the most, for they receive just about the sort of medical attendance that they pay for, when they "go up against" this lodge practice game.

The twenty-three years' war is over and the angel of peace has settled upon medical New York. The Medical Society of the State of New York has absorbed the New York State Medical Association, the union has been declared legally accomplished and the House of Delegates of the united body has met and transacted its preliminary business. The new organization has been recognized as the New York member of the American Medical Association, and as such will receive its first recognition in the House of Delegates of the A. M. A. at Boston next June.

A very slight typographical error may make a lot of difference in what is meant, and may create considerable trouble. The omission of the word "not" from the seventh commandment, in an early edition of the Bible, resulted in the arrest, imprisonment and fine of the printers, and the destruction of all but seven copies of the edition. All this is apropos of an error that occurred in the advertisement of the Oakland College of Medicine and Surgery, about four months ago, and which error was uncorrected in three issues of the JOURNAL. The mistake was noted in the office, but through what has been called the "total depravity of inanimate objects," it slipped through again and again. It was only the placing of a "6" for a "2" in the last line where the graduation fee was erroneously stated to be "\$65.00" whereas it should have been "\$25.00." While we are about it, we wish to apologize for the press work of the January JOURNAL; it was simply "fierce," and if the printer sends in another issue as badly done, we will change printers.

Dr. McCormack has made his report on conditions in California, to the American Medical Association, and it is a document to which we desire to call your special attention. Every county society in the state should read this report at its next meeting, and discuss the recommendations and suggestions contained in it. At the same time it would be profitable to read the letter from Dr. Loring which shows so clearly what a county society may be. If the county society is made the place where the physicians of the county come together to study and to make themselves better doctors, and if the public in each county can be made to know that this is the case—and they can—the "lodge practice" evil and the dangerous quack will be things of the past. The county society can be made so valuable, as a local educational center, that no person would care to call in a physician not a member of the society and thus profiting by its work and its benefits. The value of work, of study, of educational improvement, cannot be over-estimated. If the physicians of a county

are working together and studying together to improve themselves and each other, they will not have time to quarrel and they will all be more prosperous—and better doctors. Publicity is a mighty good remedy for many sociologic ills and we, of the medical profession, have too long ignored both the ills and the remedy. Again must we commend to the attention of those 73 physicians in Los Angeles who voted in favor of "lodge practice," both Dr. McCormack's report and Dr. Loring's letter.

We are kindly advised by Dr. H. S. Gordon, of Santa Ana, that there is a man operating in the southern part of the state, robbing physicians of their dollars by means of fake subscriptions to *Sunset*, a magazine published by the Southern Pacific Company, and other publications. Beware of him. He signs receipts "S. P. Co., Sunset Magazine Dept. H. F. G." Sometimes he signs H. F. Grace. It is certainly bad enough to have the nostrum maker buncoing the medical profession, without permitting other laymen to do so in other and more direct ways. Incidentally, it may be suggested that it is a poor plan to pay an agent for a subscription to anything; send the remittance direct to the publisher.

It is reported to us that the nostrum manufacturers are inclined to believe that the present stirring up in their nefarious business will soon "blow over," and that they may then settle down to another long period of peaceful depredation. Perhaps! In the mean time, just what was expected is happening. Being forced out of the *Journal A. M. A.*, and not being permitted to befoul the pages of most of the state journals, many of the "secret proprietaries" are increasing their space in the "published-for-profit" journals, and are having interesting reading notices printed in the pages of many of the journals which they control—which means most of the privately owned "medical" journals. We may read, for instance, in many of these "medical" journals, that the physicians of this country are too wise and too independent to be lead by the nose by the CALIFORNIA STATE JOURNAL OF MEDICINE, and that they will continue to use the various nostrums of unknown composition which they have (perhaps) used in the past. We may also read editorials of astonishing similarity on the foolishness of abandoning the proprietary, "tried and true," which should be put on hot, or used cold, or taken by the bucketful, and is good for everything under the sun, moon and stars. Others of the "manufacturers" are changing the wording of their advertisements. The Dios Chemical Company, for instance, used to gravely announce to the intelli-

DEFRAUDING PHYSICIANS.

WILL IT BLOW OVER?

gence of the medical profession, that one of its preparations was a specific for catarrh and another a specific for epilepsy; now they have become more modest and have inserted the word "almost." We are convinced that within two months "anasarcin" (whatever that may be) will cease to be announced as "a cure for dropsy." It is most astonishing what havoc a little bit of truth will produce; just plain, ordinary truth, of the homely, garden variety. The paper by Dr. Billings has now been printed in the *Journal A. M. A.*, and in ten state journals. The journal of the association of the great state of New York was "bluffed" out of publishing the article by the foolish threat of the Etna Chemical Company, which concern perpetrates "phenalgin," one of the acetanilid mixtures. Michigan could not find space for the paper in the pages of its journal; doubtless it was thought that the paper and the advertising pages would be an "incompatible mixture."

Anything to divert attention! For quite a while your JOURNAL, and its "lean and languid" (and many other adjectives!) editor,

SILLY have been the recipients of comment, **REPORTS.** most of it far from complimentary, in

a number of the "published-for-profit" journals. That was quite to be expected, so no particular attention has been paid to it, and the circulation and distribution of foolish statements or uncomplimentary remarks has gone right along. The last story to reach our attention is quite a new thing, however; it "takes a fall out of" the entire medical profession of the state of California. It is now going the rounds of the drug journals and doubtless, in time, will reach the pages of the "medical" journals. It is to the effect that the medical profession in California is made up entirely of grafters; that the doctors all expect to and do receive commissions on their prescriptions, commissions from nurses whom they assign to patients, commissions from undertakers—in fact, commissions from anybody and everybody with whom they do business or come in contact. This is the first canard that has indicated the slightest trace of ingenuity, and as such is refreshing. We would suggest that some one with a spark of imagination be hired to make up these stories; they grow uninteresting. Keep it up, gentlemen, we can stand it as long as you can, and we can assure you that it gives us more pleasure than you can possibly derive from it. But please get some new lies.

The poor old *Boston Medical and Surgical Journal* recently had an editorial weep on the subscribers' shoulder; we hope it feels **A WEAKLY(?)** better. It bewailed the great difficulty of editing a weekly (did it really mean "weakly"?) medical journal, and furnishing the proper sort of pabulum to its readers, in these strenuous days when

one man wants "practical points" and another wants "rigid research." We venture to think that the business office has fewer troubles, and that "prompt-paying advertisers" is the only subject demanding its immediate attention. We would most respectfully suggest to the *Boston Medical and Surgical Journal* that as the nameless "medical" journal has dropped the department edited by "Old Doc," the *B. M. and S. J.* might take it up and thus establish a place for "practical pointers," wherein its readers may be kept posted on the unlimited value of the nostrums which it advertises. Of course, there would have to be some modifications from the former style of "Old Doc," for it makes one's good red blood run cold to think of the St. Louis—"Old Doc"—English appearing in a publication edited in Boston; "Old Doc"—English would have to be translated into Bostonese. Or, for variety, and to furnish a section where all interests could find something entertaining, it might start a funny section and call it the appendix vermiformis; this would, presumably, attract attention, even if it did not excite universal approbation. Or it might confine the matter in every other issue to articles in words of one syllable. Never mind, old lady, don't cry; in the historic words of "Poker Davis," "you're doin' the best you can." But perhaps this is undignified; horrible thought!

THE STATUS OF ORGANIZATION WORK IN CALIFORNIA.*

By J. N. McCORMACK, M. D.

Chairman of the Committee on Organization of the American Medical Association, Bowling Green, Ky.

While it is now very generally known that my work is entirely in the interest of county and state organizations, and is done wholly at the expense of the American Medical Association, and although the profession everywhere has been more enthusiastic after my visits than the merits of what was done seemed to warrant, it is not so well known that I have had to almost literally beg my way into most states, and that I am still kept out of others where the need for somebody to do something to arouse and help the profession is even more evident. Fortunately, I have been relieved of all embarrassment in the matter by the knowledge that the obstacles or objections are in no way personal to myself, to what I represent or to the Association. Most frequently the trouble is that the council and other state society officials labor under the delusion that their organizations are already so advanced that only the element of time is needed to make them complete. Often I am told that "You could use no argument and bring no influence to bear which we have not already exhausted, and we cannot think that the results would pay for the trouble to us and the expense to the Association which would be involved. Back of all these expressed difficulties is the fact that these officials are busy practitioners who are so occupied with their own affairs that they cannot, or at least do not, give much serious thought to anything else which they can postpone or avoid. Being thus relieved of all personal embarrassment, and knowing from long experience what can be accomplished if the opportunity is given, I have just patiently, kindly and tactfully persisted in my efforts

*Copy of a report sent to the American Medical Association.

to secure the necessary co-operation and to get in, and have seldom failed to find that the work was most needed in those states where the need for it was least felt.

California is an excellent illustration of what has just been said. It was the first state to adopt the new plan of organization without advice or assistance from the outside. The increase in membership has been rapid, and societies exist in all but a few sparsely settled counties. Through its ably edited *STATE JOURNAL* it is leading in some of the best and most fruitful reform work which is being done in this country. Its Secretary and editor, Dr. Jones, in a most altruistic and unselfish way, has given up every other interest and ambition in order to devote his entire time and talents to its work. It has a fair medical law, and the standard of examinations is high. The fees for medical men are higher than in almost any other state in the Union. This is far more than had been accomplished in most states—more than has been done in my own state in several lines, and a pride in it all is natural and easy to understand. Still, from a careful study of their legislative history, of the dominion and insolence of the quack interests in the state, and other unmistakable symptoms, I became convinced that their attractive looking organization was largely on the surface, and that the unusual prosperity of their profession was not only fortuitous and insecure, but was endangered by the same influences which have operated so disastrously for years in the East and Middle states.

When I took the matter up with Dr. Jones he insisted that their organization was complete except in a few sparsely settled outlying counties, and no impression was made when it was urged that far more good could be done, and that there was the greatest need for work in San Francisco, Los Angeles, Sacramento and other centers of population than in the country districts, and that his plans could not be considered even well under way until these centers were thoroughly infected with the modern spirit of professional co-operation. When we met at Portland, after fruitless correspondence, I was not surprised to find that we had been discussing entirely different propositions. Earnest and able worker as he was, and as he had believed that his profession was organized as soon as a large majority of them were enrolled in the membership, with a good attendance and an interesting program at the annual meetings of the State Society, and a strong journal for intercommunication and instruction. When he realized that, important and necessary as these things are as links in the complete chain proposed under the new system, they are secondary to and almost entirely dependent for real effectiveness upon the county societies, and that these, meeting weekly or oftener, should and can be made live local schools for working out all of the complex problems confronting a rapidly evolving profession, including post graduate work, practical business methods and for educating and leading public opinion along proper lines as to the reasons for and methods of securing and enforcing medical and health legislation, he was more anxious for the work to be undertaken than I had been, and at the end of the itinerary exacted a promise that I would return next year for at least six weeks' work of the same kind.

As first arranged, the itinerary included Sacramento, Oakland, Santa Rosa, San Jose, Monterey, San Luis Obispo, Los Angeles and San Diego. Later Pasadena and Long Beach were added. Dr. Jones attended all of the appointments with me except those at Santa Rosa and San Luis Obispo, and it soon developed that he had made systematic arrangements to secure the fullest possible representation at all of the meetings. At Sacramento, the first meeting, as the attendance was pretty full, and as I had the privilege of meeting many of the members in advance, op-

portunity was given for a careful study of local conditions. The personnel was markedly high, especially on the social side, but their county society was of the old perfunctory kind, and although at the beautiful and historic capital of the state, where the need for a live interest in public affairs and for concert of action was so great, they had never even grasped the idea of such an organization or of uniting and wielding the powerful influence of the profession in everything for the promotion of its own and the public welfare. For instance, Governor Pardee, a physician, and a member of the county society since his removal to the Capitol, had been forced to veto an anti-vaccination bill during the last session of the General Assembly, which he believed could have been easily defeated with a little effort by the local profession. Other instances were related where prominent members had failed or declined to explain important measures to legislators who were patrons or personal friends. On the whole, I got the impression that this excellent profession more than usually harmonious and prosperous, and located at a point of the greatest advantage and importance, was practically dead to everything not entirely personal.

My opportunities for forming an opinion were more limited as to San Francisco and Oakland, in many respects one profession. While their societies attempt little except the reading and discussion of papers and the old order of routine work, so far as could be learned, they were somewhat more progressive than the one at Sacramento. No systematic effort had been made to deal with quackery and other similar problems, and the society appeared to be drifting along in the direction of least possible resistance, although made up of a profession able to guide with a master hand if aroused to the importance of doing so. The society at Santa Rosa was new and enthusiastic, that at San Jose solid and conservative, with delightful personal and social relations. Although adjoining one of the great army posts, with every facility and incentive for clinics and scientific work, the society at Monterey was weak and dormant, and things were not materially different at San Luis Obispo.

We had more time again at Los Angeles, and looked into local conditions carefully. Owing largely to the personal efforts of an active and capable President, Dr. Joseph M. King, this society had made a rapid growth during the past year in both membership and interest, and a successful warfare had been waged against a number of unlicensed quacks of the lower order. Their principal work, however, had been along the old routine lines, and no serious discussion ever had been had of the vast practical problems confronting the profession at every turn. They were fairly harmonious and very prosperous, and had not been alarmed by the rapid gains being made by the old as well as the almost endless new forms of quackery. And Los Angeles is a veritable paradise for quacks. Chiropractics, neuropsychics, vitopaths, neuropaths, and others not classified, in addition to the common varieties with which we are all so familiar, were extensively and expensively exploited in open defiance of law and decency, all claiming, of course, not to be physicians. These combined interests appeared to have a controlling influence over the public press, and are likely to exercise a like power over legislatures and courts within the next few years unless all of the friends of scientific medicine can be united in an intelligent, systematic, comprehensive opposition. Pasadena has an excellent branch of the Los Angeles county society, and we organized a similar one with a promising future at Long Beach.

San Diego is entitled to a chapter of its own. In this beautiful, semi-tropical city, so favored by nature and human enterprise, the profession had been engaged in an internecine, personal and factional war for years, which had brought it into great public re-

proach. Some of the leading physicians had been kept out of all society relations in spite of the best efforts of the councilor and others, until the strife had come to be looked upon as chronic and almost hopeless. Declining to hear anything of the origin or history of their troubles, and having all of the factions present at the meeting, I frankly told them of the disgrace which doctors had brought upon themselves in all of the ages by causeless, senseless bickerings, how these things had consumed energies and barred progress, showed them how all had been equally to blame, but equally held in public contempt for these conditions, and then, without ever referring to their local affairs, I tried to convince them that harmony and cooperation were more important in ours than in any other vocation, and that there were at least ten reasons in favor of these pleasant and profitable relations where there was one for discord. In conclusion, I urged that if dissensions existed there a general clasping of hands, without apologies or explanations, and an individual resolution to try to do better in the future would settle everything. In less time than it has taken to tell this story there was a general and joyous handshaking going on until it embraced every one who had been in discord, and it was tacitly agreed to take every one into the society and unite in efforts to make it one of the best in the state. Dr. Jones and I remained over for a day to join in a boat ride down the bay, which the local profession insisted upon as a ratification of the era of good feeling upon which they were all so rejoiced to enter.

I feel that the foregoing is a very imperfect and restricted description of local society conditions in California. I have described things as I saw them, but am convinced that what I have said gives a very inadequate conception of this great profession as a whole. For they have a great profession. Individually they are strong. Socially they are delightful. They are more prosperous financially than in any other section I have visited. But they are weak just where they need to be strong—in their county societies. In consequence, there has been little cohesion or unity of purpose, there has been no systematic or well-directed effort to secure the cooperation of the press and other educational agencies in creating and guiding public opinion in regard to medical and public health affairs, or to concentrate the influence of the profession itself upon proper legislation.

A system of local societies, composed of and uniting all of the reputable physicians in each county, meeting at short intervals and alive to, and in touch with, every proper and available power for good in their respective jurisdictions, are the only agencies through which these things can be done. In California better than in almost any other state all of the other machinery is about complete. They have a strong State Society, and an able and fearlessly edited journal. It is the only state in the Union except Alabama, which has a secretary who can devote his entire time to this work. Dr. Jones deserves, and to a remarkable degree has, the profession solidly enlisted in his support. Their legislation is in a bad shape. They especially need a blanket provision in their medical law, like the one we have in Kentucky, which requires every one practicing the healing art under systems now in existence, or which may hereafter be discovered, to take a fair and impartial examination. There are many other things to be done, but this should receive early attention. They have little legislative influence at present, and there is danger from adverse efforts from the combined quack interests at the next session of their General Assembly, but with such a profession and such an able and unselfish leader, and with such a system of local societies, as I have urged, it can and should soon be the banner state of the Union in medical organization, including model medical legislation.

A GREAT WORK. WHAT A COUNTY SOCIETY MAY DO.

The following letter from one of the leading surgeons of Indiana contains so much of interest to county societies, indicating what may be done in any section where as many as three or four wide-awake men can be gotten together, that we are glad to put it before the profession. "What one man has done, other men can do."

Valparaiso, Ind.,
December 21, 1905.

DR. J. N. McCORMACK,
Chairman Committee on Organization,
Bowling Green, Ky.

Dear Doctor:

Your letter asking me to elaborate our plan of Post Graduate work here, with the view that such an account may be used in inducing other medical societies to do likewise has been received.

I am greatly pleased to have the privilege to do this, not only for your personal gratification, but for the reason that I am confident that it will redound to the very great benefit of such societies as deem it wise to adopt our plan, as well as to the individual members. It will enable them to do better and more efficient work for the public as a whole, and aid each individual physician in rendering the best possible service to the unfortunate sick.

Our work was begun two years ago by getting every physician interested in becoming more familiar with scientific and practical knowledge which would be an advantage to him at the bedside, and which would broaden him as a physician. With this end in view, we rented a room, formed a club, and endeavored in every way to appeal to and build up the social, scientific, and material spirit and welfare of the profession. From every point of view I desire to report that we have been eminently successful.

In carrying out this plan we divided our work in such a way that each physician was required to act as a teacher of some special subject, and all the others took their places as students once more. Anatomy and Surgery were assigned to one, Physiology and Practice to another, and so on through the list of subjects, one fundamental and one practical branch to each teacher. Our meetings were held twice a week, regular lessons were assigned, and we were expected to be present and give one hour's time to the recitation and study of such subjects as were assigned to that evening. In this way we were enabled not only to exchange individual views as to what we believed, but could always have some good medical authority to place us right if it were found that we were wrong. This plan proved very desirable and we soon learned that the teacher of the topic derived far greater benefit from his course, for the reason that he was required to study more to hold his ground, often against the combined opinion of his class.

After going along in this way for a time it became apparent that our faculty should be changed from time to time, in order that the teachers should become proficient in more than one subject. I desire to report to you that we found this most satisfactory, and that it has resulted in a marked improvement in the attainments of every member of our profession, which means of course of the profession as a whole.

The social feature of our plan has done as much, if not more, for the good of the profession, as the scientific work. I am now able to say that we have no one in this county not on the most friendly terms with each other, and that such condition is because they actually desire to be friendly.

In addition we have kept up our regular society meetings, always with increased interest, and although ours is not one of the large counties I feel safe in saying that we have one of the best, if not

the best, society in the state of Indiana, and we are resolved to go on and make it still better.

In connection with this work it did not take us long to determine that, in consideration of the increase in the cost of living in recent years, we were not being adequately paid for our services, and we concluded that it was only just that the scale of fees should be increased one-half. In order that this might be uniform we all signed the schedule definitely fixing the price of services for both day and night and had this published. It went into effect without a single ripple and has been strictly maintained. I have never heard a complaint on the part of the public or of the agreement being violated by any member. In fact the public seem to understand the necessity for the change, largely for the reason that it knew we were making an heroic effort to give the people better service. The results have been that our incomes have been increased by one-half, and that night work has been reduced to a minimum, giving us the evenings for post-graduate work and to spend with our families. While we have not accomplished all that we set out to do, we have certainly made rapid progress, and are not to stop or falter until our ideals are attained.

Probably this very crude plan might be greatly elaborated and improved, but it has worked so well, and given such universal satisfaction here that I am sure none of us would be willing to disturb our present satisfactory condition.

Should you be able to use what we have done as an incentive for others, or to elaborate it for the promotion of medical organization, you will have the very best wishes of every member of our profession in doing so. With personal best wishes,

I am, most sincerely yours,

DAVID J. LORING, M. D.

ASPHYXIA NEONATORUM. A NEW METHOD OF RESUSCITATION.

By WILLIAM HIMMELSBACH, M. D., San Francisco.

THE method proposed was first used by me in March, 1900, since which time I have applied it in twenty cases, with uniform success. I claim priority, although Dr. Samuel Wolf, of Philadelphia, later in the same year, as gleaned through subsequent correspondence, likewise used my method, though not aware of it at the time, evidently two minds running in the same groove.

Before detailing the last three cases, typical of all preceding, I would beg indulgence in a few general remarks pertinent to the subject in question.

Suspended animation, as is well known, is commonly divided into two stages, the "anemic," or "asphyxia pallida," and the "apoplectic," or "asphyxia livida." Peripheral stimulation in one case is frequently successful, while in the other it is useless.

The anemic form is due to insufficient nourishment, torsion or compression of the cord, disease of placenta, disturbance of placental circulation, congenital diseases, malformation, morphine or chloral, premature labor, whereas the apoplectic form is the result of tedious labor, premature first stage, breech presentation, forceps. In the one case, there is an insufficient blood supply; in the other, local congestion, general venous stasis, diminished supply of maternal or placental blood, due to direct interference with umbilical circulation. In the anemic form, when occasioned alone by the loss of blood, there is a depletion of the circulatory system, as well as deficiency in maternal blood supply.

Prognosis is usually considered unfavorable. I simply advocate, in addition to the older methods, the newer one given below, as even seemingly hopeless cases have been restored and preserved.

The following history has been gathered from pa-

pers of Dr. Bissell and others. In 1543 Visalium published his experiments, which demonstrated the effect produced upon the heart when the lungs of animals were inflated with air. In 1664 Robert Hook introduced artificial respiration, the principles of which have ever since been the recognized means of reviving, where suspended animation exists, but to Marshall Hall we are indebted for having made the first advance in the study of the nature and cause of asphyxia, one of the forms of suspended animation, superior to any previously suggested.

In 1824 Dewees advised placing the child head downward, and holding the body and the hips higher than the head, and renewing the inflation alternately. In 1883 Professor Simpson, of Edinburgh, taught to first hold the infant by the heels, to allow any fluid to run out of the air passages, and then perform artificial respiration by the Schultze method. Dr. Morrison, in an article, described the condition as a disease of the circulatory and not the respiratory system. Dr. John McKenzie, in the *Lancet*, however, described a case in which the heart continued to beat for more than four hours, without the respiratory function having acted. Puzzled at the phenomenon of the heart beating all this time without the faintest appearance of respiration, the idea struck him that the heart was stimulated mechanically through the terminal filaments of the vagus, by air passing through the esophagus into the stomach, and not, as he had imagined, by the presence of oxygen in the fetal blood. To clear up this doubt he managed to pass air by means of a small rubber catheter into the stomach, and whilst doing so, heart beats fell back to the original condition, slow and feeble, just ticking in the distance, but on resuming blowing air through the mouth and nostrils the heart responded and improved as already described. This he did over and over again, and at last, in despair, and to his regret, left his patient. It then had a strong, bounding pulse. On returning the next morning he found the child dead. How much longer than four hours the heart continued beating he was unable to say.

Dr. W. C. McGee, of Ohio, claims to have resuscitated sixty-eight cases within two minutes after birth. He catches feet in one hand to hold child securely and places the other hand over the shoulders from behind, and two fingers on each side of the neck for protection. Then he takes the child head down and feet up, and begins up and down movements, at first slowly and then getting up to fifteen or twenty. If the cord is not long enough to permit motion he waits five minutes, cuts the cord and ties.

Dr. Bissell is a strong advocate of suspension by the feet. In regard to the cord, he says: "If we have to deal with the apoplectic form, it is well to allow the umbilical circulation to continue several minutes after birth. The engorged vessels are thereby relieved without loss of blood, as occurs when the leakage is allowed from the severed cord. Should efforts at respiration not be made during the first two or three minutes, it is best to ligate and sever the cord immediately after birth, so as not to allow increased loss of blood."

Other methods are Schultze's, Mouth insufflation, Byrd's, Forest's, Pacini's, Schroeder's, Sylvester's, Laborde's. As regards Schultze's method, cases have been reported of rupture of the liver, with fatal termination; and Schultze himself reports a sudden death after resuscitation, the autopsy showing a broken bone having perforated the pleura and lung.

I shall now give a history of my last three resuscitations by the new method.

Case I. Primipara, aged 22. Called at 10 P. M., June 9, 1905. Abdominal palpation showed the child's back in the right flank, with the extremities to the left above. Heart sounds distinctly heard to the right and below the umbilicus. Os sufficiently dilated to detect by vaginal examination, the sagittal suture in the oblique diameter, the small fontanelle toward the right sacroiliac joint. Diagnosis, vertex presentation, R. O. P. position. Membranes ruptured spontaneously at midnight, June 10th.

All instrumental aid positively objected to by patient. At 5 A. M., June 11th, head well down on the pelvic floor, but auscultation failed to detect fetal heart sounds. Situation and danger to fetus explained to mother, and consent obtained to apply forceps, which was done, and child extracted. Its appearance was peculiar, the hands and half way up the forearm, the feet and half way up the legs, were of a deep blue color, as though dipped in dye, line of demarcation sharply drawn, the remainder of the body being of a marble-like whiteness. There was absolutely no respiration, nor could any heart sounds be detected, body extremely cold, no muscular tonicity, extremities and head hanging loosely. The umbilical cord barely pulsated, so ligated and cut. Hot and cold applications, inversion, Schultze's method, flagellation, made no impression, so after ten minutes, believing the child dead, injected hypodermically 1-1500 gr. of sulphate of strychnia and 1-2000 gr. of sulphate of atropine. In about five minutes was encouraged by an occasional gasp, with perceptible heart sounds, in fifteen minutes a second hypodermic, as above, was given. One hour after birth, pulse 130, breathing regular, 30, and for the first time emitted a cry.

Case II. Primipara, aged 20. Vertex presentation, R. O. A. position. Called June 20th, 9 P. M. Membranes ruptured June 21st 2 A. M. Child born 3 A. M. Much to my surprise, no respiration, no reflex action, extremities limp. After usual manipulations, was rewarded with an occasional gasp, followed by cessation of respiration. Heart sounds very faint, about twenty-five per minute. Injected hypodermically above solutions. Same result.

Case III. Primipara, aged 19. Called October 10, 1905. First time saw patient. Diagnosis, transverse presentation, delivered by podalic version. Asphyxia. Resuscitation, after abandoning common methods, by the injection process.

These cases were particularly desperate, but am proud to say at present time are good specimens of healthful infancy.

TUBERCULOSIS OF MESENTERIC LYMPH GLANDS, SYMPTOMS OF INTUSSUSCEPTION NECESSITATING RESECTION OF THE INTESTINE.

By HARRY M. SHERMAN, M. D., San Francisco.

THE following case report includes two diagnostic opportunities, and is for other reasons as well, not uninteresting:

A girl, 8 years old, was brought to me with presumably pseudo-hypertrophic muscular paralysis. I sent her to Dr. Moffitt for a confirmation of the opinion, and for such general treatment as he deemed wise. Shortly after his first interview with her he was summoned to see her again for an abdominal condition. This began with pain and obstipation, vomiting and headache. The obstipation was at first complete and resisted cathartics, but later yielded to an enema, and from that time there was diarrhea, small mucus-sanguinolent stools being voided two, three or four times a day. Furthermore, a rounded mass about 8 cm. in diameter could be felt in the abdomen, just below the umbilicus. A diagnosis of probable intussusception was made and the child was transferred back to me and sent to the Children's Hospital.

When I saw the child at the hospital she was quiet. There were no peritoneal facies, the belly was flat and soft, there was no tenderness in any part; a mass of egg-size could be felt to the left of umbilicus; it was easily movable and not tender. Careful mouth feeding was ordered, fluid and semi-fluid, but it again caused vomiting and had to be abandoned. Meanwhile, watery stools with mucus and blood were voided, several a day. The tumor changed its position so that it came to lie below the umbilicus, but it changed in no other respect.

Two days after admission to the hospital the belly was opened with the expectation of finding an intussusception, which was causing some obstruction, but not occlusion. The operation disclosed a large gland in the mesentery of the ileum and close enough to the spine to press on the mesenteric veins and partially occlude them. The intestine served by these obstructed veins was thick, edematous and in a state of congestion. As it was impossible to remove the gland without either rupture or injury to the veins, and as, if it was left it soon must itself break and pour its contents into the peritoneum, producing tuberculous peritonitis, it was decided to remove the gland and all the mesentery and intestine served by the obstructed veins; 53 cm. of the intestine, with its mesentery was resected. A Murphy button was used to make the anastomosis after the resection.

My own original examination of the child had been superficial. She was brought to me because of increasing difficulty in going up hill, or up stairs.

Her muscular weakness was plainly seen, her thick legs were equally obvious, a brief examination excluded a bone or joint lesion, and her climbing up her legs, in getting up from the floor, changed a suspicion into an opinion and I sent her away as I could do nothing for her and I did not care to take the responsibility of a neurologic diagnosis.

Dr. Moffitt did examine the abdomen and found nothing in it, nor was there any suggestion of the abdominal state until the sudden onset of pain, obstipation and vomiting. As will be seen from the pathologist's report there were some small lymphatic glands in the wedge-shaped piece of mesentery removed and these could not have been felt through the abdomen. The gland which caused the obstruction must have been the seat of an acute inflammation and rapidly enlarged between the time of Dr. Moffitt's first examination and the onset of abdominal symptoms. These symptoms could suggest nothing but intussusception, and no real doubt of the accuracy of the diagnosis existed until the belly was opened.

Tumors of the mesentery, malignant or otherwise, habitually or, at any rate not unfrequently, interfere with the circulation in the intestine. If the tumor is among the *vasa tenuis*, when the collateral circulation is so remarkably free, the interference will count for nothing. If it be above the *vasa tenuis*, it may easily cause the congestion of a certain length of intestine and this congestion may result in complete stasis of the blood and end in gangrene.

If the tumor press on and occlude the trunks of the mesenteric vessels, gangrene of the whole intestine naturally follows. During the period of congestion intestinal contents can pass only with difficulty through the swollen turgid part of the gut, and mucus and blood are quite certain to be poured into the intestine, and to be evacuated, leading most naturally and commonly to the idea of an intussusception. The removal of such an obstructing tumor necessitates the resection of the intestine for the fact that it has seriously disturbed the intestinal circulatory integrity showing that that particular part of the gut is actually doomed, and is in process of having the sentence executed.

After the operation the child did reasonably well until we came to feed her by the mouth—though the mucus and blood persisted in the stools. Mouth feeding was begun on the third day after the operation and continued 3 days without trouble; then the child vomited, and again on the next day. On the 5th day of the mouth feeding the child was somewhat stupid, but complained of tenderness in the belly. The temperature was going up day by day and the leukocytosis began to go higher. On the 6th day the belly became distended, there was much tenderness and the knees were drawn up. The temperature was 39.6°, but the leukocytosis was 3000 lower than the 5th day, being 15,000.

It seemed now impossible to avoid a diagnosis of peritonitis, and with the idea of localizing the process the mouth feeding was stopped and the rectal feeding resumed. By the following day the improvement was so great, the distension and tenderness gone, the temperature normal and the leukocytosis down to 12,400, that the peritonitis idea was abandoned and mouth feeding resumed. This only served to make her worse, with return of distension and tenderness, the belly being quite tight. The temperature also went up again, but the leukocytosis remained low.

It was noted, however, that while the belly was swollen and tight and tender there was no muscular spasm or rigidity, and of this I felt sure, even making allowances for the muscular atrophy which was part of her pseudo hypertrophy. A radiogram taken at this time showed the button turned on its side and moved but little from its original location.

A diagnosis under these circumstances must lie between a peritonitis with a low leukocyte count, 9600, and no muscular rigidity, or an intestinal sapremia due to partial obstruction, and the differentiation was not an easy one.

A low leukocytosis might be understood in a child with a degenerative disease in the first instance, a chronic infection added, and an operation with sec-

ondary acute infection on the top of the other two. Malnutrition due to rectal feeding might be a factor in keeping down the count. It would be, of course, a practical leucopenia and was an understandable possibility. The lack of muscular rigidity might still, in spite of my belief to the contrary, be due to atrophy of the muscular elements in the abdominal muscles, unfortunately I had not thought, at the time of the operation, to take a specimen of muscle for examination, and I had no definite means of estimating the value of its muscular action. I only knew that no action was present, a condition that might have positive or negative value in the diagnosis.

Now, counting these two symptoms as against a peritonitis, that is, giving them their face value, the evidence in favor of peritonitis was only the distension, the tenderness and the high temperature, 39.2°. As against peritonitis, we might count with the low leukocytosis and the lack of rigidity, the persistence of the diarrhea, with blood and mucus the chief elements in the stools, and the persistence of intestinal gurgling. For if there was a peritonitis it should be extensive and severe, and intestinal paralysis should be present. In addition, there had been a too rapid disappearance of all symptoms upon the stopping of mouth feeding. An acute peritonitis, with severe symptoms, does not disappear in 24 hours merely because of abstention from food by the stomach.

A diagnosis of sapremia was, consequently, made and the belly was opened to remove the button by an enterotomy. No peritonitis was present. The button was removed, the wound closed and the episode was ended, for the child made an uneventful recovery.

CONTRACT PRACTICE.

The Shasta County Medical Society not long ago adopted resolutions condemning the contract society and lodge practice. Shasta Aerie, No. 160, Fraternal Order of Eagles, adopted a set of resolutions Wednesday evening upholding the system. In answer to these resolutions Dr. O. J. Lawry, president of the Shasta County Medical Society, and Dr. B. F. Wallace, secretary, have made reply in a signed statement published below. In order that both sides may have a hearing, the resolutions and the reply are herewith published in full.

Resolutions.

Whereas, The local newspaper recently published the following resolutions as having been adopted by the Shasta County Medical Society, to-wit:

"Whereas, It is the sense of this body that contract society and lodge practice as now performed is detrimental, degrading and humiliating to the medical profession; therefore, be it

"Resolved, By the Shasta County Medical Society, in regular meeting assembled, that no member of Shasta County Medical Society be permitted to enter into contract relations with such society; and be it further

"Resolved, That no physician in the employ of such societies be eligible to membership in the Shasta County Medical Society. Be it further.

"Resolved, That no member of the Shasta County Medical Society be permitted to consult with any physician following such contract practice."

And, Whereas, The Fraternal Order of Eagles is a fraternal benefit association, founded upon the principles of liberty, justice, truth and equality, and having for its objects the care of its sick and distressed members and the protection from want of the widows and orphans of its deceased members;

And Whereas, For the accomplishment of these purposes, it is necessary to have at all times a competent physician who believes in the cardinal principles of our order;

And Whereas, The manifest purpose of the published resolutions is to prevent, by intimidation and professional ostracism, any physician in Shasta County and within the jurisdiction of the medical society from entering into a contract with the Aerie or any other fraternal organization;

And Whereas, We regard the position assumed by the medical society as an arrogation of the right to dictate to this Aerie and like organizations the terms upon which it may carry out the purposes for which it was formed, and that, if any medical society had this power, all work of charity and brotherly love through fraternal organizations and homes, such as those as the Odd Fellows, Masons, Young Men's Institute, Foresters, Eagles and many other institutions of like character, must suffer thereby when such medical society sees fit to adopt a higher scale of prices;

And Whereas, The Fraternal Order of Eagles will not permit any society or association or set of men to dictate on what terms the members of this order shall be protected, or what will be the conditions of the contract between this Aerie and its physician;

And Whereas, Shasta Aerie, No. 160, F. O. E., has a membership consisting of nearly two hundred citizens of this community, pays all its bills, is fully able to take care of each and all and every one of its members, and is and will continue to be actively opposed to any attempt to prevent the accomplishment of its fraternal purposes;

And Whereas, The contract society and lodge practice as now performed is exactly the same in every particular as it has been performed for more than fifty years last past;

Now, therefore, Be It Resolved by Shasta Aerie, No. 10, F. O. E., that the worthy physician of this Aerie be, and he is hereby authorized and empowered to call into consultation with him such consulting physician or physicians of Shasta County or adjoining counties, at the expense of this Aerie, as the exigencies of the case may require, or when he may deem it necessary or expedient for the full and complete treatment or protection of the members of this Aerie.

Adopted by Shasta Aerie, No. 160, F. O. E., at a regular meeting, December 20, 1905.

The Reply.

Redding, Dec., 23, 1905.

As members and officers of the Shasta County Medical Society, acting under instructions of its Executive Committee, and in defense of our action relative to contract lodge and society practice "as now performed," we wish to correct the misapprehension of its motives and purposes as voiced in the resolutions of Shasta Aerie, No. 160, Fraternal Order of Eagles, adopted December 20, 1905, condemning our action. In the first place, we wish to deny that our action was aimed at fraternal orders or any particular physician now doing lodge contract practice, as our resolutions do not go into effect until January 1, 1906, and several physicians now serving in the capacity of lodge physicians are members of the Shasta County Medical Society.

We would also most emphatically disclaim any attempt to "dictate to the Shasta Aerie or like organization the terms upon which it may carry out its purposes," but we submit that as medical attention to its members is one of its principal features, medical opinion could not fairly be ignored when arrangements for such services were being considered. If they wished to secure lights for their hall, they would have to consult the Northern California Power Company. If they need groceries for any of their members or stationery or seals or any other lodge furniture, they would certainly have to consult the people dealing in such commodities. But if they want the services of a physician, judging from their

resolution, they would like "to dictate" to our profession the terms upon which we may be permitted to render such services.

But now to the point at issue. Mark the preamble to our resolutions: "Whereas, It is the sense of this body that contract lodge and society practice, as now performed, is detrimental, humiliating and degrading to the medical profession." The Shasta Aerie of Eagles, by its action has invited us to produce the proof, and we accept the invitation and thank it for the opportunity of so doing. While to many of our profession contract practice in all forms is objectionable, it has not been possible to eliminate it in some cases, and where there has been an approach to a fair compensation for such contract work, it has not been officially condemned. But when our mild acceptance of a seeming wrong encourages any lodge or society to place a valuation upon our services comparable to those of the bootblack and peanut vender and attempts to force us into acceptance of its valuation, then indeed is it time to feel ourselves humiliated and degraded.

Let us compare the rates which the order of Eagles is offering us and is censuring us for refusing, with the rates other institutions are allowing us. Shasta County is paying its physician \$75 per month for caring for an average of fifty inmates of the County Hospital. All the mines and lumber companies in the county are paying their contract physicians, where they have one, \$1 for every man upon the monthly pay rolls. The railroad pays its local physicians the customary rates of our fee bill for caring for its sick and injured. Usage, then, recognizes \$1 per month as the minimum fee for medical attendance for each man.

Let us say, then, \$1 has been accepted as a reasonable contract compensation for medical attention to one person. Then anything less than that would be an unjust discrimination against the medical member of any order organized for the care and protection of its members. The Shasta Aerie of Eagles admits its "ability to care for each of its members" and pays its physician only 50 cents per quarter, or sixteen and two-thirds cents per month for each member, and for this small sum expects him to render his services, not only to the individual member but to his family as well. Then for its 200 members and their families, which probably will number in the aggregate 350 persons, its physician receives \$33.33 per month, or a little less than 10 cents for each person claiming his services.

For medical care, then, the Eagles are willing to pay a little less than 10 per cent and expect their medical members to contribute over 90 per cent of this charitable service. Two hundred members pay 10 per cent, and one poor medical member has to contribute over 90 per cent.

Is this in accordance with those eternal "principles of justice, truth and equality" which they claim actuate their order? Is it a square deal?

Outside of fraternal orders no profession or calling does more for charity or the sick and unfortunate humanity than the medical profession, and inside the benevolent orders will be found among their most prominent members representatives of our profession, cheerfully contributing of their means and their services to every worthy cause. Then why should we shoulder a greater burden of charity and benevolence than all the rest of a beneficial society? If we are right in our assumption that such contract work is humiliating and degrading, as would appear from the foregoing statement of facts, then the charge of intimidation and professional ostracism falls to the ground.

Our action had the unanimous endorsement of every member of the society, either tacit or expressed in our meeting. Every member of the Shasta County Medical Society, including all members now doing

contract society work, was twice given the opportunity of expressing his sentiments in meeting, and every one of them was twice urged to express his opinion by letter, in case of inability to be present at our meetings, and assured that such expression should weigh the same as if present, the proposition having been submitted to us by the State Medical Society, a branch of the American Medical Association, for action. Among all replies received and all votes cast on the question, there was not one dissenting voice. If among our membership there were one person holding views in opposition to our stand, he did not say so, and if after tacitly agreeing with the ideas thus expressed in our resolutions he should ignore them and do the very thing his society has officially disapproved as wrong and humiliating, he would thereby ostracize and defy his colleagues and reject their counsel and assistance. Should any physician not a member of our society accept such a contract, knowing the sentiments of the organized profession in opposition to the same, he thereby would assume an attitude of defiance to his professional brethren and show his contempt for their opinions.

Any member of the Shasta County Medical Society who should continue his services after the time allowed by our resolutions, having tacitly endorsed such resolution, would disregard his fraternal obligations and could not be held up as a martyr or a victim of persecution and professional ostracism.

In either case to expect any self-respecting physician to hold professional consultation would be unreasonable and absurd.

As regards the Eagles, the whole thing "in a nutshell" is this:

For medical attention to your members and families you offer us only 10 cents each per month, probably less than you pay your janitor. This offer we consider unworthy of any lodge or order holding the tenets of "justice, truth and equality," as cardinal principles, and degrading and humiliating to our profession. Against your order and its members, outside of this question, we hold no prejudice, and among the members of your order and ours there are many instances of the warmest friendship. No thought of individual persecution actuated us. Our action was without prejudice to any order, as among our profession it would be exceptional to find a man not an enthusiastic member of one or more of the fraternal orders. Our stand was taken as a demand for fair play, and in a laudable effort to elevate the standard of our profession to the mutual benefit of ourselves and those whose health and lives are entrusted to our care with the knowledge that adequate medical attention can never be rendered for so small a compensation.

O. J. LAWRY, President.

R. F. WALLACE, Secretary.

The Searchlight, Redding, Cal.

American Urological Association.

The first meeting of the Pacific Coast branch of the American Urological Association was held at the offices of Dr. McConnell, 705 Sutter street, San Francisco, Tuesday, January 16, 1906, at 8:30 P. M.

The following was the program:

"Nephro-phon vs. Roentgen Rays in Nephrolithiasis, with Demonstration of Cases," Dr. G. F. Eaton, San Francisco; "The Prognosis in Syphilis," Dr. A. E. Mackay, Portland, Or.; "A Case of Cancer of the Prostate, the Bladder Base and the Left Seminal Vesicle; Operation, Recovery," Dr. Granville MacGowan, Los Angeles; "Intravesical Operations with the Aid of the Cystoscope," Dr. Henry Meyer, San Francisco; "A Case of Prostate-Rectal Fistula," Dr. R. L. Rigdon, San Francisco; "The Effect of Uterine Retro-Displacement on the Urinary Bladder," Dr. G. S. Whiteside, Portland, Or.

HERZSTEIN LECTURES IN THE UNIVERSITY OF CALIFORNIA FOR 1905.

Special Chemical Problems Related to Practical Medicine.

Synopsis furnished to the JOURNAL by the lecturer.

LECTURE IV.

The Value of Kryoscopic Investigations for Pathology and Diagnosis.

By ALONZO ENGLEBERT TAYLOR.

Each cell has as components colloids, arranged in phases of different densities, lipoidal substances, organic non-dissociated crystalloids, organic electrolytes and inorganic electrolytes. The electrolytes are probably in part in complex chemical combination with the colloids; in part, their relation is one physical to the properties of these colloids. For each cell there is an osmotic concentration of a salt solution that is isotonic, i. e., exhibits the same osmotic pressure. The saline concentration, which is isotonic to a cell, corresponds in the static and dynamic sense to those physical relations between the colloids, crystalloids and water that obtain in that cell. When a mass of cells are aggregated into a body, there is a pronounced tendency to maintain constant in the circulating fluids that surround these cells that molecular concentration that is isotonic to them, though the physical methods by which these cells accomplish the result is not clear. The osmotic pressure of the circulating fluids is due almost entirely to inorganic electrolytes, which in the concentration present are nearly entirely dissociated. The proteins of the blood and lymph sera have a very low osmotic pressure, the sugar, urea and other organic substances are present in so low a concentration in the blood as to exert little osmotic pressure. The concentration of the electrolytes has, so far as known, two functions. Since it is isotonic to the cells (an arrangement for which the cells must be held in some way responsible), it preserves them intact in their physical and chemical properties. It also retains colloids in the circulating stream. Colloids have the most marked properties of adsorption for colloids, a property that is antagonized by electrolytes. Were it not for the presence of salt in the blood and lymph, the proteins of these fluids would be entirely held by adsorption by the cells of the body. The salt enables protein to remain in the circulation and to be available for the needs of the body.

Each cell, whatever the concentration of the saline solution to which it is isotonic, possesses a certain power of adaptation to variations. When a cell is placed in a solution hypertonic or hypotonic to itself, the semi-permeable properties of the cell membrane permit it to adapt itself to these deviations, within certain limits, by the absorption or the extrusion of water and also to some extent by the absorption or extrusion of salt. It may be assumed that the power of adaptation is greater than the degree of deviations to which the cell may be subjected in its life. Red corpuscles, cells that are isotonic to about a 0.9% NaCl solution, will tolerate solutions from about 0.4 to a 1.2 per cent before suffering any loss in the continuity of the cell membrane; whether they would continue to functionate under such wide variations is not probable. Experiments in the injection of hypo- and hypertonic solutions into nephrectomized animals indicate that the body cells possess a noteworthy degree of toleration to variations in the molecular concentration of the circulating fluids; if the kidneys be retained in the experiment, the body promptly recovers the normal tonicity of the circulation. If the salt content of the blood is held normal but its content of protein reduced, the body soon recovers its normal content of blood protein by ab-

straction from the tissues. These compensations are the expressions of reciprocal physical reactions between the cells and the circulating fluids, though the details are not at all clear.

Now, have we any measurements tending to show that there are conditions of disease in which this balance of reciprocal physical relations between the cells and the circulating fluids may be disturbed to any notable degree? The normal freezing point of the blood varies in different persons and in the hands of different investigators from 0.52 degrees to 0.59 degree below that of water. Part of the variations are included in the Beckmann method of determining the freezing point. Much lies in the faulty manipulation of the Beckmann method. In the few observations that have been made with the method of Raoult, the depression has been between 0.55 and 0.53, and if we compare the results of corresponding estimations of the blood of different animals and apply the findings as corrections to the available observations upon human blood with the Beckmann instrument, we will obtain analogous figures. To what extent different individuals vary from each other, and to what extent the blood of the same individual will vary from time to time and under different circumstances, is not known.

The maintenance of a condition of hypertonicity would mean some abnormality whereby either the salt content of the blood is increased or the water content decreased; hypotonicity would mean some condition whereby the salt content of the blood is decreased or the water content increased. It may be said that all of the many estimations of the freezing point of the blood under conditions of disease have yielded figures within the limits of the normal as ascertained with the same methods of measurement. Now and then one observes a low or high figure, just as occasional lower and higher figures have been recorded for the normal. We may safely say that we possess today no data tending to show that a particular deviation of the molecular concentration of the blood is regularly associated with any particular disease. It is probably true that the blood in pregnancy displays a depression of the freezing point a little less than the normal, that during the active stage of croupous pneumonia the freezing point of the blood tends to be rather more depressed. One may occasionally, in nephritis and typhoid fever, in heart disease and other chronic diseases, as cirrhosis of the liver, see a high figure, and in some cachexias and the anemias a low figure. Even these sparse findings are in dire need of confirmation by more careful methods of measurement. In connection with investigations in heart disease, Korányi described a slight increase in the depression of the freezing point of the blood plasma associated with a lowered chloride content in the same. He found that when oxygen was passed through this blood the normal osmotic pressure was restored. This he explained by the investigations of Hamburger, that when the CO₂ of the blood is in excess, chlorion passes into the blood cells, and when the tension of CO₂ is removed, the chlorion returns to the plasma. One does not understand why the depression of the blood plasma should necessarily be increased, since these migrations are supposed to be in equi-ionic relations. The hypothesis further postulates that a CO₂ retention is present in all cases of cardiac insufficiency, and that in these cases the blood plasma has an alkaline reaction; these two postulations are not known to be true. The variations described by Korányi were not marked, and future investigations will be needed to determine the exact validity of the statements.

In the consideration of the freezing point of the urine we must obtain a clear idea of what is actually concerned in the molecular concentration of a urine and of the variable factors to which it is related. It is the efforts of the body to maintain a constant relation between the molecular concentration of the

circulating fluids and the body cells that account in part for the variations in the molecular concentration of the urine. There are, however, external factors.

The salt input of the body is limited to the alimentary tract. We consume the chlorides, sulphates, phosphates and traces of the nitrates of sodium, calcium, potassium, magnesium and iron. In addition, sulphur, phosphorus and nitrogen are obtained in organic combination with the food, and these are eliminated as salts. The metabolic sulphur is eliminated in large part as easily dissociated salts of the common cations, in part as difficultly dissociated aromatic sulphates, in part as neutral sulphur in organic combination and not dissociable. The metabolic phosphorus is eliminated in large part as dissociable phosphates. The nitrogen is eliminated in large part as urea and other undissociated substances, in small part as dissociable ammonia salts. Iron is also ingested in organic form, to be eliminated in inorganic form.

The salt output of the body follows several routes. A certain part of the ingested salt is not absorbed. A certain part is eliminated by the intestinal tract, largely the salts of calcium and iron. There is some evidence that the intestinal elimination may be reciprocal to that of the kidneys and skin. A considerable amount of salt is eliminated by the sweat glands. The sweat may contain as much as one-half or three-quarters of one per cent of salt, largely chlorides. In profuse perspiration the percentage is usually less, but even the insensible perspiration deposits salt upon the skin. To what extent the elimination by the sweat glands is reciprocal to that of the kidneys is unknown. The tears contain a high percentage of salt. The larger part of the body salts are eliminated by the kidneys; the lower the salt ration, the less predominant is the role of the kidneys. The larger part of the salt input is not necessary to metabolism, but is purely an incident to taste.

The organic molecules of the body are eliminated in large part by the kidneys, the elimination by the intestinal tract, apart from the undigested residue of the food, and by the sweat glands, is very slight. The lungs eliminate, so far as known, nothing of note beyond carbon dioxide.

Equally important is the water input of the body. This is in large part determined by the tastes of the individual rather than by the necessities of metabolism. The route of elimination of the water is also to some extent a personal equation; some utilize the skin disproportionately, others the urinary tract largely. The respiratory output of water is quite constantly a function of the respiratory magnitude.

The molecular concentration of the urine is obviously the result of the interrelations of these external varying factors. Unless these are known and controlled, a particular deviation cannot be related to a particular disease, since a phenomenon cannot be a function of one variable unless all others are controlled. The diet must be constant in quantity and composition. It must be known how much of the food is absorbed, and whether there is a balance in the nitrogenous metabolism. In fasting without salt the organic molecules, the sulphates and the phosphates, are maintained fairly constant, while the chlorides rather rapidly decline to a minimum; beyond this the salt output will depend on the saline content of the drinking water. In over-feeding, the organic molecules and the related sulphates and to some extent phosphates, are very high, and if the salt input be not increased the rôle of the chlorides in the molecular concentration of the urine will be subordinated. The possibilities for unforeseen and uncontrollable errors of great magnitude in investigations of the urine without control of the diet are so apparent that it is clear that only under the approved conditions of a metabolic experiment is it possible to attempt an accurate study. This has been practically

never undertaken in the clinical studies on this subject.

The salt input must be known and constant. Beyond its relation to the water input, salt influences metabolism to some extent and tends to produce diuresis.

The water input must be known and controlled. Not only is there the direct relation between salt and water, excesses of water influence to some extent the digestion. The ideal water ration would be one that would contain all the salt in the output completely dissociated, so that the urine would contain only electrolytic ions and undissociated organic molecules, but no undissociated electrolytic molecules.

The urine must be free of abnormal constituents in such quantity as to influence the freezing point. Albuminuria would disturb but little. Glycosuria, however, might produce a notable variation.

The salt output of the alimentary tract must be known. It cannot be controlled, but if it be known it will make logical interpretation of the urinary findings more feasible.

Lastly, the water and salt output of the skin must be controlled, though it cannot be measured. This means that the external temperature and the muscular exertions must be held constant throughout the experiment. This is a factor of importance that seems to have been invariably disregarded. It is easy to produce variations in the molecular concentration of the urine by the simple act of perspiration, and this variation will be all the more marked because it affects sodium chloride.

When, now, in any investigation we wish to determine whether the molecular concentration of the urine is altered by heart disease, nephritis or any other disease, these factors must be known and controlled before any observed finding may be related to the disease under consideration. The rôles of these denominated factors may be comprehended when we observe that the freezing point of the urine of normal persons living according to the dictates of their personal habits varies from 0.2 degrees to 3 degrees below that of water. Common fluctuations in the same person are from 0.5 degrees to 2 degrees. When one analyzes the published findings bearing on the freezing point of the urine under different conditions, it is clear that they are worthless for diagnosis or pathology. The fluctuations are so enormous, the contradictions so omnipresent, and the adventitious variables so uncontrolled and so obviously operative, that no other conclusion is justified.

Much was hoped of the estimation of the molecular concentration of the urine in the study of nephritis. This was, from the outset, a delusion, because the real problems of nephritis do not lie in this direction. Even though the intoxications of nephritis were supposed to be due to retention, to a disability of elimination, it was not to be supposed that this would be a block defect, affecting electrolytes and the different organic molecules in like proportion. Whatever the organic poison in nephritis, there was no warrant for the assumption that the power of total secretion would be parallel to this intoxication. Chronic interstitial nephritis, unquestionably the form of nephritis that is least susceptible of recovery, is accompanied by a normal elimination of both salts and metabolic constituents in the majority of cases, and yet uremia is proportionately more frequent here than in any other form of chronic Bright's disease. The real problems in nephritis are: Why has the kidney lost its power of retaining colloids, become permeable to the blood proteins? Upon what depends its increased impermeability to the passage of urinary constituents in those instances in nephritis in which such impermeability can be shown to exist? What are the relations of nephritis to the protein metabolism? How does nephritis cause arterio-sclerosis? What is the toxic agent in uremia? From

whence is it derived, and to what disturbance of the metabolism is it to be attributed? The kryoscopic investigations have not been able to eliminate even the problem of dropsy.

That the relations of the molecular concentration might be of the greatest interest when correctly determined, and interpretation cannot be questioned, but there was little reason to hope that the practical problems of nephritis would be approached from this direction. What the actual relations are in nephritis as well as in other diseases, is not known. No one has investigated the urine with the subjects under the proper control of the adventitious variables. The same considerations apply to the published investigation of the molecular concentration of the urine of cases of acute diseases, heart disease, chronic constitutional diseases, everywhere the simple freezing point of the urine under conditions devoid of control of the patient has yielded neither notable knowledge for pathology nor advance in diagnosis.

Many attempts have been made to obtain other and less shifting constants by the correlation of the freezing point with other urinary measurements. Thus arose the constant "depression of the freezing point \times total elimination in cc." This constant is less shifting than the simple depression of the freezing point, but includes, nevertheless, the same factors of error unless determined under the proper conditions of control. The idea that the depression of the freezing point divided by the factor 1.85, and this then multiplied by the number of cc. of urine eliminated daily, would yield the gramme-molecules excreted per day, rests upon an error, since the electrolytes in the urine are not entirely dissociated. How large a final error is thus introduced we have no way of determining in so complex a fluid as urine. In practical work this constant has little more use than the simple reduction of the freezing point. It is not improved by dividing it by the weight of the subject, since such a procedure would bestow upon the metabolically inert bones and fat a controlling influence in the molecular concentration of the urine.

Among the constituents of urine that are operative in the depression of the freezing point sodium chloride is the most prominent. In the attempt to segregate this factor Korányi devised the constant "freezing point divided by sodium chloride %." The larger the depression due to the sodium chloride the lower will be the constant, the lower the relative content of sodium chloride the higher will be the constant. This constant is obviously exposed to all the variables specified, and is particularly influenced by the salt input and by the salt output of the perspiration. It varies, as observed in uncontrolled cases, from less than 0.9 to nearly 10.0, though usually to not more than 5 unless the diet is very abnormal in salt. An increase in the output of metabolic products will lower the factor, a reduction would raise the factor—assuming that the NaCl output remained constant. When the conditions of life are approximately controlled the variations are much less, from 1 to 2.5 possibly. What the factor might be under proper control is not known. This factor has been applied to the study of heart diseases by Korányi. The fact seems to be that the constant tends to increase with renal congestion without renal lesion. The theory of Korányi is that the glomeruli allow the salts of the blood to pass in proportion to their concentration in the blood plasma; as this glomerular excretion passes down the uriniferous tubule he supposes it to exchange salt for organic molecules in equimolecular proportions, and as these processes of reciprocal diffusion require time, the longer the fluid remains in the tubule and is exposed to this exchange the lower will be the content of sodium chloride and the higher the content of metabolic molecules. Whenever the constant is high, therefore, the conclusion is drawn that the velocity of the uriniferous stream

is slowed and a renal congestion, due to low blood pressure, disturbed cardiac compensation, is diagnosed.

The condition is observed independent of heart disease, even in the normal after severe exercise, and for these cases Korányi assumes that the blood has been, so to speak, deflected from the kidneys to the muscles. Korányi believes that this factor will be high in instances of heart disease so long as the kidneys are healthy, so soon as a nephritis sets in, the glomerular elimination of the salt is held not to be quantitative, and as the metabolic elimination of the lower tubule is also held to be disturbed, the factor will be irregular. Such a theory of renal secretion cannot be assumed. Now, however impossible the theory advanced by Korányi for the station of his factor, the facts seem to be in general as stated. It has been long known that in acute renal congestion the concentration of the urine is dependent upon a relatively greater concentration of organic molecules than of sodium chloride. To what extent this would be maintained under controlled conditions of observation is not known. The most valuable part of the test would lie in the marking of the point of establishment of renal lesion. Unfortunately the observations on this point have not been at all harmonious. The theory assumes a CO_2 retention in all cases of cardiac insufficiency, which is known not to be true. If the hypothesis of Korányi were true there would be an elimination of a relative excess of salt and a deficiency of the organic molecules in all conditions of quickened circulation and high blood pressure. Now this does not hold. Were this maintained in patients with arteriosclerosis, for example, it would within a few weeks lead to a notable reduction in the salt of the blood and the accumulation there of metabolic molecules, which we know does not occur. In the instances of cardiac congestion the hypothesis demands an excess of salt in the blood, which does not occur, so far as we have any knowledge. The relations of this factor are admitted by Korányi himself to become very irregular when a renal lesion sets in, and the results in nephritis are very contradictory.

Other constants have been obtained by the association in one way or other with the freezing point of the urine, of the osmotic pressure of the known content of sodium chloride, the total nitrogen elimination, the conductivity of the known content of sodium chloride, etc. These have all the same defects, in that the numerous variables have been uncontrolled.

The factor with the nitrogen has been applied particularly to nephritis, always with the assumption implied that there is a relation, a parallelism between the nephritis and the end products of nitrogenous metabolism. Such a relationship does not exist. The attempts to prophecy uremia by these methods have been entirely futile. Uremia occurs so often with a normal and complete elimination of both the salts and the metabolic molecules that all such speculations are futile. There is no parallelism between nephritis, extent of lesion or uraemic intoxication and the ability of the kidney to eliminate the normal urinary constituents. What kills in uremia is unquestionably not a reduction of a normal function (even in the cases where this occurs), but an abnormal substance, an intermediary intoxication of unknown nature. The same facts hold for eclampsia. The investigations of the molecular relations throw no light upon the disease.

The net result of the present investigations into the molecular concentration of the urine have led to few results. It is not only possible but probable that when these phenomena are studied under proper conditions of control with adequate methods, valuable results will be obtained. In the study of surgical conditions affecting the two kidneys invaluable results have been obtained with the method of

differential measurement of the segregated urines. Here the conditions are simple and the differential result measurable and under control. As a matter of strict fact, surgery has to date been the sole recipient of practical results from kryoscopic investigations of the urine. To the physicist and chemist it is mournful to contemplate to what extent of abuse the intrinsically good method of kryoscopy has been subjected in uncontrolled clinical investigations.

SOME REMARKS CONCERNING THE CONSERVATIVE TREATMENT OF SEVERE OCULAR INJURIES.

By FRANK ALLPORT, M. D., Chicago, Ill.

THE conservative treatment of severe injuries to the eyeball is a subject of great interest to railway surgeons, as such cases are constantly presenting themselves for care and advice. The importance of the eye for visual and cosmetic purposes is, of course, too well understood to warrant discussion, and it is, therefore, a foregone conclusion that every reasonable effort should be made to retain this important organ in as nearly a perfect condition as possible, both for its seeing qualities and also for the proper adornment of the human face. Nevertheless, in the enthusiasm for the preservation of an eyeball after a severe ocular injury, the surgeon should endeavor not to retain in the socket an eye which has not only been destroyed so far as visual purposes are concerned, and been mangled far past the beauty point, but has also reached a pathological condition where it has become a probable menace to the safety of the sole remaining eye. This, then, is what I mean by *conservatism* in the treatment of severe ocular injuries, and it often requires considerable experience and no little judgment to skillfully stand between the extremes of endeavoring to save too many eyes or of endeavoring to save too few.

It cannot be denied that many eyes are enucleated that by patience and skillful care might have been saved, and this course of ruthlessly sacrificing all eyes which are severely injured cannot be too strenuously deprecated. Extreme ocular traumas usually occur in workmen, and railroads, machine shops, wire shops, etc., furnish a large proportion of these injuries. Certain argumentative considerations naturally present themselves upon the examination of severe bulbar accidents. In the first place an enucleation is clearly the easiest way out of the trouble, as it is much more difficult to save an eye than to remove it, and requires much less time in the hospital, usually less expense to the patient or corporation, and enables the patient to resume work in a much more expeditious manner. Time and money are thus almost invariably saved by removing a badly injured eye, rather than by making an effort for its salvation, a process which often lasts for weeks or even months, and is then frequently crowned by failure and a necessary eyeball enucleation. Such a termination of a protracted case is a humiliation to the surgeon and a disappointment to all parties concerned, and will frequently find the patient and his friends utterly opposed to the operation, while at first, under the influence of the physical and moral suffering and shock of the accident, they would, with almost invariable readiness, have acceded to any operative procedure proposed by the surgeon. At this juncture the patient often begins to wander from one office to the other, frequently falling into the hands of quacks who promise to effect a cure, needless money is spent, valuable time is consumed, and sometimes serious results, such as meningitis or sympathetic ophthalmia, follow, carrying with them a depressing lesson of the consequences of extreme conservatism and caution. Nevertheless, it should not be forgotten that as a rule the surgeon renders himself less liable to adverse

criticism if he, whenever it is at all possible, extends to the patient a probationary period of at least a few days of active endeavor before he positively advises an eyeball enucleation, and reasonable patients usually feel much more reconciled to such a procedure if it has been preceded by a brief, active and manifest effort at ocular salvation. It must likewise be remembered that while we hold the bug-a-boo of meningitis and sympathetic ophthalmia over our patients' heads as a menace and as a legitimate means of inducing them to agree to our wishes, and to establish ourselves on firm ground in case of ultimate misfortune, these terminations of severe ocular injuries are in reality most remote in their probabilities. Do not misunderstand me as endeavoring to minimize their real importance, nor to underestimate their direful history when they actually appear. I believe that they should always be kept in mind and should invariably assist us in the formation of our counsel to patients, but I likewise believe that their occurrence is of extreme infrequency, as in a tolerably active practice of about twenty years in eye surgery I have never seen a case of meningitis proceeding from an ocular trauma, and have not seen to exceed three cases of sympathetic ophthalmia. Cases of purulent panophthalmitis rarely produce meningitis, as before this calamity occurs the pain and suffering become so severe as to induce patients themselves to be quite willing to be relieved by an enucleation, and even to voluntarily beg for such a surgical procedure. The danger of sympathetic ophthalmia, however, is of a more valid character, especially as the condition of the patient is so pitifully distressing, not to say hopeless, after this dreaded disease actually shows itself. It must also be remembered that severe ocular traumas usually occur in laboring men of limited intelligence and means and of migratory habits, roaming from one city to the other and from one surgeon to the other, and that they are quite inclined to seek the advice of quacks, whose counsel is usually of the worst possible character. It is, therefore, on the whole, unsafe to allow such patients to get away from proper surgical advice with a really menacing unenucleated eye in situ, as sympathetic ophthalmia is a most insidious foe, and one that should be avoided where real danger exists. In a case of severe ocular trauma where, perhaps, great laceration has occurred and where I feel that an enucleation is the proper step to take, I frequently say to my patients that an eye has only two functions, viz., sight and beauty, and that if both these functions have been unfortunately destroyed and the mangled and disfigured eye may also eventually become a menace to the health of the patient and the safety of the other eye—and will always remain a source of anxiety and care—it is much better to remove it by an operation that will produce a good, full, movable stump and wear an artificial shell which, if well fitted, will look better than a disfigured eye, and possess quite as much vision. Such arguments rarely fail to produce pliable patients.

The location of the wound should have much to do with our advice either one way or the other, as injuries in the posterior portion of the eye, back of the sclero-corneal junction or ciliary region, are much less dangerous than those anterior to the ciliary zone, while the most dangerous traumas of all are situated directly in the ciliary region, under which conditions a gloomy prognosis must surely be entertained, as small wounds in this locality are as a rule far more dangerous than even large lacerated injuries in any other situation.

The giant and other magnets, while they have undoubtedly saved many eyes otherwise unsavable, have, I think, greatly increased the danger of sympathetic ophthalmia, as through their mediumship many eyes are spared which may eventually become dangerous which without the magnet would unquestionably have been removed. Do not misunderstand me as decrying the magnet, for which I have the greatest respect, and which has saved more good eyes than it will ever

lose, but I do believe that the unwise and unskillful use of the magnet by surgeons who regard it as merely a powerful machine by which steel, etc., can be forcibly extracted from an eye without regard to method has, must and will be responsible for many lamentable results in ocular surgery. If such surgeons would but read the writings of Haab, Hirschberg and others on this interesting subject, in which they deliberately regard this operation, when properly performed, as the most delicate and difficult in ocular surgery, they would, I am sure, entertain for it a profound respect, and would not be so apt to regard it as a mere pulling contest. In this connection, however, I desire to say that I cannot entirely subscribe to the teachings of these masters in ophthalmology when they so tenaciously adhere to the anterior avenue of steel removal. If the steel is visible in the anterior segment of the eye, or if it is a very small piece, it is, of course, best to gently draw it into the anterior chamber with the Haab magnet before the cornea is opened, if possible, and then, after the corneal section has been made, to remove it with the large magnet or perhaps by a Hirschberg magnet, gently insinuated into the lips of the wound. But if the steel is in the posterior portion of the eye, or is of large size, I believe it is far better to make a proper incision through the sclera, etc., as near the site of the projectile as possible and to draw it out backwards rather than to drag it over the sensitive and vital anatomical elements constituting the anterior segment of the eyeball. I am well aware that much danger lurks in either method and that detached retina and choroid, hemorrhage, escape of vitreous, infection, etc., are to be feared if objects are withdrawn by the scleral opening. But these complications are, I think, less to be feared than will be the case if an effort is made to drag a jagged piece of metal over the ciliary body, around or through the lens, iris and cornea on to the point of a giant magnet, under which circumstances cyclitis and uveitis are greatly to be feared, together with cataract, infection, loss of vitreous, prolapse of iris, etc. For these reasons and others I cannot endorse the generally accepted doctrine of almost invariably extracting steel by the anterior route, but feel that many cases will be best operated through the sclera, and believe that each case should be carefully studied by itself. I am also convinced that the best interests of patients is not always served by extracting large pieces of steel from an eye which has been badly mangled and injured past all claims to beauty or utility, and feel that many such eyes had better be enucleated at once, thus saving much time and money, and avoiding the subsequent salvation of a sightless, atrophied stump, which must always remain a menace to the safety of the other eye.

It is commonly believed that the Haab magnet is an almost infallible guide as to the presence of steel, etc., within the ocular walls. While it is perhaps true that in a large majority of cases pain will be felt on the approach of a large magnet to an eye containing steel or iron, this rule is not by any means invariable, as I have myself proven in several cases of enucleated eyeballs where the magnet had been repeatedly tried without eliciting the slightest pain. The piece of steel may be very small, or it may be firmly retained in the inner scleral wall, or it may be encysted, under any of which circumstances the magnet may fail to produce pain and the surgeon may erroneously assume the absence of steel. Neither can the X-ray picture be relied upon to locate the presence of steel, etc., as I have seen several cases where the photographer found no steel where steel really existed, and at least two cases where he positively diagnosed the presence of steel in the eye where a subsequent enucleation for panophthalmitis clearly disproved his opinion. I would like also to correct a mistaken idea that wounds of the lens are always followed by cataract, as this notion is quite far removed from the truth. I have seen a number of cases where small

foreign bodies have passed completely through the lens and dropped into the vitreous chamber, where the injury was only followed by a slight, localized opacity which, in some cases, practically disappeared, and I remember one case where I gently needed a lens for high myopia, hoping to produce a cataract, which was merely followed by a localized opacity where I had perforated the lens.

Before leaving this subject I desire to pay a tribute to a therapeutic remedy that has been my most patient ally in the salvation of many eyes that, I believe, would otherwise have been lost. I refer to the new silver preparations, and especially to silver-vitellin and Crede's ointment. These remedies I have grown by experience to regard as almost indispensable in menacing ocular injuries. I first began using silver-vitellin in the varying grades of purulent or muco-purulent conjunctivitis, and in cases of abraded or ulcerated cornea and also in infected conditions of the tear passages. It gave greater satisfaction than any drug I have ever used, and while I do not regard it as invincible in such diseases, I am but rarely disappointed in its use. I then began using it in my operative work, and in cases of cataract, iridectomy, etc., always endeavor to have a 25 per cent solution of silver-vitellin dropped into the eyes several times a day for about two days before the operation, and since adding this to my other preparatory measures, have never had a case of infection. Lately I have been dropping the solution over the field of operation directly after the operation in cataract and other bulbar operations, and have never had cause to regret it, and believe that it has played an important part in the production of good results. In cases where I have feared infection I have even allowed a little of the solution to run into the anterior chamber and have never been displeased with the results, as the dark staining wears away in a short time. In cases of severe ocular injury and after a magnet operation I use the solution freely, injecting it not only into the anterior chamber but into the vitreous chamber, and believe that thereby I have saved many eyes.

I almost hesitate to confide to you my method of using Crede's ointment in dangerous infected eyes, where, perhaps, suppuration has already been firmly established, and yet it is the truth we should seek, and I have seen such surprising results from the use of this preparation that I feel I should mention it in this paper, even though it is repugnant to our ideas of treating infected, suppurating eyes. I usually care for these infected and perhaps suppurating ocular traumas in the orthodox manner, that is, by cold packs, antiseptic irrigation, atropine, silver-vitellin, etc., during the day, but when night comes I direct that the eye be thoroughly cleansed, that silver-vitellin and perhaps atropine be used and anything else done that seems advisable. A thick plaster or poultice of Crede's ointment is then spread upon a piece of gauze, which is placed directly over the closed lids and secured in position by a soft bandage. This is allowed to remain all night and is removed in the morning for the resumption of the daily routine treatment. I have never regretted using the ointment, and have seen many eyes saved where such salvation seemed well nigh impossible. The amount of discharge is much lessened and it is surprising when the ointment is removed in the morning to see how clean the eye is and how the small amount of secretion has been drained from the eye to the ointment. I have even used this method of treatment in gonorrheal ophthalmia and have always been pleased with its effect. In addition to these remedies, in all cases of severe eyeball injuries I invariably and promptly place my patients on large doses of salicylate of soda, endeavoring to follow the rule of Gifford of giving them in the twenty-four hours one grain of the drug to each pound of the patient; for instance, I give a man weighing 150 pounds 150 grains of the medicine. I am satisfied that I have seen good results from this plan, although it sometimes produces acute cerebral

excitement, which necessitates a temporary suspension of the drug.

In menacing cases of eyeball injuries I believe I have also seen good results from a few daily sweat baths, and this has almost become a routine procedure in instances of this kind.

The space permitted for this paper is, of course, too brief for me to enter fully into the various orthodox methods of caring for ocular traumas, nor is it necessary or desirable, for these details are well understood by you all. I have simply endeavored to discuss with you some of the reasons for endeavoring to save eyes and some of the indications for their removal. In addition to this I have taken the liberty of setting forth to you some particular methods of dealing with important conditions which I have found by personal experience to be most efficacious.

REPORT OF THE COMMITTEE ON VITAL STATISTICS.*

By WM. J. G. DAWSON, M. D., Chairman, Eldridge, Cal.

YOUR committee on vital statistics begs leave to submit the following report:

It was the original purpose to take excerpts from the various enactments passed by the legislature at its 36th session. This was found, upon brief investigation, to be impracticable and unsatisfactory, owing to the fact that the law had been so thoroughly changed. We therefore decided to submit in full the new laws governing the subject.

Assembly bill No. 339, introduced by Mr. Waste, relating to the State Board of Health, amends and re-enacts the following upon the subject of vital statistics:

It (the State Board of Health) shall maintain a bureau of vital statistics under the supervision of its executive officer, where shall be collected and recorded all births, marriages and deaths, burials and cremations within the state.

These statistics, together with the number of cases of communicable diseases, and such further comparative statistics and information as may be deemed of value to scientists, the medical profession, the general public and aid in the maintenance of good health conditions, may be published by the board in such manner and at such times as it may deem proper.

It shall have power to prescribe and enforce regulations for the embalming, cremation, burial, disinterment and transportation of the dead. It shall have power to prescribe the form of certificates of births and deaths, and of permits for burials, disinterment, cremation and transportation of the dead, and provide measures for their observance.

Assembly bill No. 346, introduced by Mr. Gates, and passed by the last legislature, covers the whole subject most thoroughly, and is as follows:

SECTION 1. That department of the State Board of Health known as the state bureau of vital statistics, shall provide for and superintend the complete and proper registration of deaths for legal, sanitary and statistical purposes.

SECTION 2. That for the purposes of this act the state shall be divided into registration districts as follows: Each city and county, city and incorporated town, and each county exclusive of the portion included within cities and incorporated towns, shall constitute a primary registration district.

SECTION 3. That the recorder of each city and county, city and incorporated town, and each city or town clerk where there is no city or town recorder, shall be the local registrar in and for such primary registration district, and shall perform all the duties of local registrar as hereinafter provided. Each local registrar shall immediately appoint, in writing, a deputy who shall be authorized to act in his

stead in case of absence, death, illness or disability, and when it may appear necessary for the convenience of the people in any county, the local registrar is hereby authorized, with the approval of the state registrar of vital statistics, to appoint one or more proper and competent persons to act as sub-registrars, who shall be authorized to receive certificates of death and to issue burial permits or removal permits in and for such portions of the county as may be designated. Each sub-registrar shall note in legible writing over his signature the date each certificate of death was filed, and shall forthwith forward the certificate to the local registrar of the county, and in all cases before the eighth day of the following month; provided, that all sub-registrars shall be subject to the supervision and control of the state registrar of vital statistics.

SECTION 4. That the body or remains of no person whose death occurs in the state shall be interred, deposited in a vault, grave or tomb, cremated, disinterred or otherwise disposed of, or removed from or into any registration district until a permit for burial, disinterment or removal shall have been properly issued by the registrar of the registration district in which the death occurs. And no such burial or removal permit shall be issued by any registrar until a complete and satisfactory certificate and return of the death has been filed with him, as hereinafter required; provided, that in case of any death outside of the state, where the body is accompanied by a removal or transit permit issued in accordance with the law and the health regulations in force where the death occurred, such removal or transit permit shall be accepted as of the same authority as a permit from the local registrar when such removal or transit permit shall have indorsed thereon the written approval of the state registrar of vital statistics, or when said state registrar otherwise officially notifies the local registrar of his approval.

SECTION 5. Stillborn children, or those dead at birth shall be registered as deaths under this act, and a certificate of death and burial or removal permit in usual form shall be required. The medical certificate of cause of death shall be signed by the attending physician or midwife, and shall state the cause of death as "stillborn," with the cause of the stillbirth, if known; whether a premature birth, and, if born prematurely, the period of utero-gestation in months, if known.

SECTION 6. That the certificate of death shall be of the standard form recommended by the United States Census Office and the American Public Health Association, and shall contain the following items:

- (1) Place of death, including state, county, township or town, city or village. If in a city, the ward, street and house number. If in a hospital or other institution, the name of the same to be given instead of the street and house number.
- (2) Full name of decedent. If an unnamed child, the surname, preceded by "Unnamed."
- (3) Sex.
- (4) Color or race—as white, black (negro or negro descent), Indian, Chinese, Japanese or other.
- (5) Conjugal condition—as single, married, widowed or divorced.
- (6) Date of birth, including the year, month and day.
- (7) Age, in years, months and days.
- (8) Place of birth; state or foreign country.
- (9) Name of father.
- (10) Birthplace of father; state or foreign country.
- (11) Maiden name of mother.
- (12) Birthplace of mother; state or foreign country.
- (13) Occupation; the occupation to be reported of any person who had any remunerative employment—women as well as men.
- (14) Signature and address of informant.
- (15) Date of death, including the year, month and day.

* Presented to the House of Delegates at the Thirty-fifth Annual Meeting of the State Society, Riverside, April, 1905.

(16) Statement of medical attendance on decedent, fact and time of death, including the time last seen alive.

(17) Cause of death, including the primary and immediate causes, and contributory causes or complications, if any, and the duration of each.

(18) Signature and address of physician or official making the medical certificate.

(19) Special information concerning deaths in hospitals and institutions and of persons dying away from home, including the former or usual residence, length of time at place of death, and place where the disease was contracted.

(20) Place of burial or removal.

(21) Date of burial or removal.

(22) Signature and address of undertaker.

(23) Official signature of registrar, with date when certificate was filed, and registered number.

The certificate shall be written legibly in permanent black ink, typewritten or printed, and no certificate shall be held to be complete and correct that does not supply all of the items of information specified above or satisfactorily account for the omission of any of said items.

The personal and statistical particulars (items 1 to 13), or such other items as shall be required by the state registrar, shall be authenticated by the signature of the informant, who may be any competent person acquainted with the facts.

The statement of facts relating to the disposition of the body shall be signed by the undertaker or person acting as such.

The medical certificate shall be made and signed by the physician, if any, last in attendance on the deceased, who shall specify the time in attendance, the time he last saw the deceased alive, and the hour of the day at which death occurred. He shall further state the cause of death so as to show the course of disease or sequence of causes resulting in death, giving the primary and immediate causes, and contributing causes, if any, and the duration of each. Indefinite and unsatisfactory terms indicating only symptoms of disease or conditions resulting from disease will not be held sufficient for issuing a burial or removal permit, and any certificate containing only such terms, as defined by the state registrar, shall be returned to the physician for correction or definition. Causes of death which may be the result of either disease or violence shall be carefully defined; and, if from violence, its nature shall be stated, and whether accidental, suicidal or homicidal. For cause of deaths in hospitals, institutions or away from home, the physician shall furnish the information required under this head, and shall state where, in his opinion, the disease was contracted. The cause of death and all other facts required shall in all cases be stated in accordance with the instructions and directions of the state registrar.

SECTION 7. In case of any death occurring without medical attendance, it shall be the duty of the undertaker to notify the registrar of such death, and when so notified the registrar shall inform the local health officer, and refer the case to him for immediate investigation and certification prior to issuing the permit; provided, that when the local health officer is not a qualified physician, or when there is no such official, and only in such cases, the registrar is authorized to make the certificate and return from the statement of relatives or other persons having adequate knowledge of the facts; provided further, that if the circumstances of the case render it probable that the death was caused by unlawful or suspicious means, the registrar shall then refer the case to the coroner for his investigation and certification, and the coroner shall, within three days after the inquest, furnish the local registrar where such death occurs a certificate in form and substance as required by the state registrar, and containing as many of the facts required by this act as can be ascertained. Said local

registrar shall then forthwith transmit such certificate to the state registrar, retaining a copy thereof on file in his office.

SECTION 8. The undertaker, or person acting as undertaker, shall be responsible for obtaining and filing the certificate of death with the registrar and securing a burial or removal permit prior to any disposition of the body. He shall obtain the personal and statistical particulars required from the person best qualified to supply them, over the signature and address of his informant. He shall then present the certificate to the attending physician, if any, or to the health officer or coroner, as directed by the registrar, for the medical certificate of the cause of death and other particulars necessary to complete the record, as specified in the preceding section. And he shall then state the facts required relative to the date and place of burial, over his signature, and with his address, and present the completed certificate to the registrar within the time limit, if any, designated by the local board of health for the issuance of a burial or removal permit. The undertaker shall deliver the burial permit to the sexton or person in charge of the premises before interring the body, or attach it to the box containing the corpse, when shipped by any transportation company, to accompany same to destination, when it shall be accepted by the sexton as authority for the interment of the body.

SECTION 9. It shall be the duty of the local registrar to supply blank forms of certificates to such persons as require them. He shall carefully examine each certificate when presented for record, to see that it has been made out in accordance with the provisions of this act and the instructions of the state registrar, and if any certificate is incomplete or unsatisfactory it shall be his duty to call attention to the defects in the return, and to withhold issuing the burial or removal permit until it is corrected. He shall then number them in consecutive order, beginning with number one for the first death in each calendar year, and sign his name as registrar in attest of the date of filing in his office. If the certificate is properly executed and complete, he shall then issue a burial or removal permit to the undertaker; provided, that in case the death occurred from some disease that is held by the State Board of Health to be infectious, contagious or communicable and dangerous to the public health, no permit for the removal or other disposition of the body shall be granted by the registrar except under such conditions as may be prescribed by the state and local boards of health. He shall also make a complete and accurate copy of each certificate registered by him, upon a form identical with the original certificate, to be filed and permanently preserved in his office as the local record of such death, in such manner as directed by the state registrar. He shall, on or before the 8th day of each month, transmit to the state registrar all original certificates registered by him during the preceding month. If no deaths occurred in any month, he shall, on or before the 8th day of the following month, report that fact to the state registrar in such manner as the state registrar shall direct.

SECTION 10. If the interment or other disposition of the body is to be made in the registration district in which the death occurred, the wording of the burial permit may be limited to a statement by the registrar, and over his signature, that a satisfactory certificate of death having been filed with him, as required by law, permission is granted to inter, remove or otherwise dispose of the body of the deceased, stating the name, age, sex and cause of death, and other necessary details, upon the form prescribed by the state registrar. In case the interment or other disposition of the body is to be made in some registration district other than that in which the death occurred, a complete copy of the certificate of death shall be attached to and made a part of the permit.

SECTION 11. No sexton or person in charge of any

premises in which interments are made shall inter or permit the interment of any body unless it is accompanied by a burial, removal or transit permit as herein provided. Each sexton or person in charge of any burial ground shall indorse upon the permit the date of interment, over his signature, and shall return all permits so indorsed to the local registrar of his district within one day from the date of interment. He shall also keep a record of all interments made in the premises under his charge, stating the name of the deceased person, place of death, date of burial and name and address of the undertaker, which record shall at all times be open to public inspection.

SECTION 12. The state registrar shall prepare a sample form and blank for all registrars for use in registering, recording and preserving the returns or in otherwise carrying out the purposes of this act, and shall prepare and issue such detailed instructions as may be required to secure the uniform observance of its provisions and the maintenance of a perfect system of registration. No other forms of blanks shall be used than those prescribed by the state registrar. He shall carefully examine the certificates received monthly from the local registrars, and if any such are incomplete or unsatisfactory, he shall require such further information to be furnished as may be necessary to make the record satisfactory. All physicians, informants or undertakers connected with the case, and all other persons having knowledge of the facts, are hereby required to furnish such information as they may possess regarding any death, upon demand of the state registrar, in person, by mail or through the local registrar. He shall further arrange, bind and permanently preserve the certificates in a systematic manner, and shall prepare and maintain a comprehensive index of all deaths registered, showing the name of deceased, place and date of death, number of certificate and the volume in which it is contained. He shall inform all registrars what diseases are to be considered as infectious, contagious or communicable and dangerous to the public health, as decided by the State Board of Health, in order that when deaths occur from such diseases proper precautions may be taken to prevent the spreading of dangerous diseases, and all rules and regulations made by him for carrying out and enforcing the purposes of this act shall, when promulgated, have the same force and effect as if enacted by law.

SECTION 13. Whenever it may be alleged that the facts are not correctly stated in any certificate of death theretofore registered, the local registrar shall require a deposition under oath to be made by the person asserting the fact, to be supported by the depositions of two or more credible persons having knowledge of the facts, setting forth the changes necessary to make the record correct. Having received such depositions, he shall file them, and shall then draw a line through the incorrect statement or statements in the certificate, without erasing them, and make the necessary corrections, noting on the margin of the certificate his authority for so doing, and transmit the deposition, attached to the original certificate, when making his regular monthly returns to the state registrar. If the correction relates to a certificate previously returned to the state registrar, he shall transmit the deposition forthwith to the state registrar. If the correction is first made upon the original certificate on file in the state bureau of vital statistics, the state registrar shall transmit a certified copy of the original certificate, corrected as above, to the local registrar, who shall thereupon substitute such certified copy for the copy of the certificate in his records. All such corrections and marginal notes referring to them shall be legibly written in ink, typewritten or printed.

SECTION 14. Each local registrar shall be entitled to be paid the sum of not exceeding twenty-five cents for each death certificate properly and completely made out and registered with him, and by him re-

turned to the state registrar on or before the eighth day of the following month, which sum shall cover and include the making out of the burial permit and the copy of the certificate to be filed and preserved in his office. And in case no deaths were registered during any month, the local registrars shall be entitled to a sum not exceeding twenty-five cents for each report to that effect, promptly made in accordance with the directions of the state registrar; provided, however, that all such compensations for such services shall be fixed by the Board of Supervisors, City Council or other governing body of such local registration district.

All amounts payable to registrars under the provisions of this act shall be paid by the treasurer or other lawful officer out of the funds of each registration district, upon warrants drawn by the local auditor or other proper local officer of such district, which warrants shall specify the number of certificates properly registered and reports promptly returned where no deaths are registered, with the amount due for each; provided, however, that no warrant shall be issued to any local registrar, or, if issued, shall be paid where notice is previously given by the state registrar to the auditor, treasurer or other proper officer of such registration district that the local registrar has failed to comply with the rules and regulations of the state bureau of vital statistics and the instructions of the state registrar.

SECTION 15. The state registrar shall, upon receipt, furnish any applicant a certified copy of the record of any death registered under provisions of this act, for the making and certification of which he shall be entitled to a fee of fifty cents, to be paid by the applicant. And any such copy of the record of a death, when properly certified by the state registrar to be a true copy thereof, shall be prima facie evidence in all courts and places of the facts therein stated. For any search of the files and records, when no certified copy is made, the state registrar shall be entitled to a fee of fifty cents for each hour or fractional hour of time of search, to be paid by the applicant. And the state registrar shall keep a true and correct account of all fees by him received under these provisions, and turn the same over to the state treasurer.

(To be continued.)

Certificates Revoked.

The certificates of O. C. Joslen, H. McGregory Wilson and L. H. Meadows, were revoked by the board December 23, 1905, for unprofessional conduct, viz., conviction of an offense involving moral turpitude, in the U. S. District Court, this city, in May, 1905. The offense consisted in sending through the mails a printed circular containing information as to the means of preventing conception and an offer to perform an abortion. The evidence was secured by a postoffice inspector and detective. Joslen is the notorious practitioner of Kearny and Market streets. The cases in the Judicial Court were conducted by U. S. Assistant District Attorney McKinley. The jurors were out but five minutes; the fines imposed were from three to five hundred dollars. The defense made by the attorneys for their defendants, before the board, "that this offense does not involve moral turpitude," made me blush for my profession. The time for appeal in the U. S. Courts is six months, and the board was lenient enough to allow this time to run out before passing judgment. The cases were tried by the board last August.

W. C. TAIT,

Attorney for the Board of Examiners.

Dr. William Fitch Cheney has moved his offices from 906 Polk street to the Shreve building, corner of Post street and Grant avenue.

PRELIMINARY REPORT ON PHLEBO-SCLEROSIS.*

By JULES B. FRANKENHEIMER, M. D., San Francisco.

WITHIN the last few years the importance of arterio-sclerosis, both of itself and in relation to other diseases, has been forced on the medical mind. The great impetus to this study has been the discovery of its relation to many conditions which give rise to clinical phenomena of the first importance. Sclerosis in the venous system, on the other hand, has not received much attention, probably because of its lack of practical interest. The present paper was suggested by the finding of a number of cases of phlebo-sclerosis in a certain class of diseases. Data were collected from cases as they were admitted to Dr. Hirschfelder's wards at the City and County Hospital.

The number of cases is too small to draw any absolute conclusions, but the results seemed to be striking enough to warrant some tentative deductions, which we hope to be able to substantiate by a much larger series of cases in the future. The one probable pathological factor which stands out prominently among the many possible causes is cough. Another factor to which we ascribe considerable importance is hard work. Though it is difficult to decide the relative amounts of work done by men in different occupations, nevertheless, it was found that, roughly speaking, the majority of hard workers were affected in varying degree. As to the location of the sclerosed veins, those that suffered most were in the most exposed positions, e. g., over bones, such as the internal malleolus—or where support from the surrounding tissue was the least.

Physiological factors, such as respiratory movements, kind and amount of food, clothes—first for their influence on the temperature of the body; second, in the way of obstruction to the circulation—such as armlets and garters, were not considered.

Most of the work done on this subject has been pathological, the deeper veins of the limbs and trunk receiving most attention. As to its occurrence, more generally than is noted clinically, most authors are agreed. Cases which show it most clearly are cachectic individuals in whom the peripheral veins are fairly well filled. When there is a considerable layer of subcutaneous fat, the condition, unless particularly investigated, is liable to be overlooked, especially, as has been found in this series, when only the slightest or moderate grades are present.

The question arises: Is every palpable vein a sclerotic vein? Much has been written on this question, and Mehnert justly says: "Only the microscopical examination of veins is the true test as to sclerosis." That there is a condition of pseudo-sclerosis both Schlesinger and Parkes Weber have shown. Schlesinger considers some cases of apparent phlebo-sclerosis in the extremities as due to a temporary contraction of the vein. Weber suggests that the compulsory rest in the hospital, with diminished circulation of blood through the limbs, causes some of the superficial veins to be comparatively empty and contracted. Have we, then, any clinical test to differentiate between apparent and true sclerosis? Bennett suggests placing the limb in hot water when the temporary contraction will disappear. He explains the condition of pseudo-sclerosis by increased vein function, and considers it a forerunner of the true sclerosis. If we agree with Bennett that the pseudo merges into the true sclerosis, we can, from a clinical standpoint, allow ourselves a margin of error in the selection of cases.

The object of this investigation was to determine the frequency and etiological factors of thickened veins and their possible diagnostic or prognostic significance. The work done was purely clinical,

there being little opportunity for pathological research. The classification used was slight, moderate and marked. The slight grades were those in which the vein could be picked up in a fold of skin, palpated and rolled between the forefinger and thumb; the moderate an intensified condition of the slight; while those which felt like parchment or were calcareous were called marked. One hundred and eleven cases were investigated, in which 43 were negative, 45 had slight phlebo-sclerosis, 17 moderate and 6 marked. Of the total number of cases, 61.8% showed phlebo-sclerosis in some degree. Of the men 52% showed the condition, of the women 18%, a proportion of 3:1 in favor of the former. Whether this is due to less hard work among women, other things being equal, or to the better support given the veins by the greater amount of subcutaneous fat, could not be determined. Taking only the moderate and marked grades, we find phlebo-sclerosis present in 21% of all cases, the men showing 23%, the women 9%—about the same ratio as when all grades were considered.

Age.—Taking only the moderate and marked forms, the average age of those with the moderate form is 44 years, the youngest being 21 years. The average age of those with the marked form is 53 years; leaving out 2 cases (80 and 70 years), brings the average to 42 years.

It would seem that age, as in arterio-sclerosis, is a factor, but not of the same importance as in arterio-sclerosis.

Venous pressure.—Gaertner's method was used in trying to determine the venous pressure. The method proved unsatisfactory, so it was given up.

Relation to arterio-sclerosis.—There seems to be no marked parallelism between phlebo-sclerosis and arterio-sclerosis. In the 45 cases of slight vein thickening there was no arterio-sclerosis in 21 cases. Slight arterio-sclerosis in 17, moderate in 7 and marked in 1. Of the 17 cases of moderate phlebo-sclerosis, in 5 there was no arterio-sclerosis, in 8 slight arterio-sclerosis, in 3 moderate arterio-sclerosis and in 1 marked. The six marked cases of phlebo-sclerosis showed 1 without arterio-sclerosis, 2 with slight arterio-sclerosis and three with marked arterio-sclerosis. Thus of the 17 cases of moderate phlebo-sclerosis 76% had slight or no arterio-sclerosis, and of the 6 marked cases of phlebo-sclerosis 50% had slight or no arterio-sclerosis.

TABLE.				
	AS neg	AS ₁	AS ₂	AS ₃
PS ₁	21	16	7	1
PS ₂	5	8	8	1
PS ₃	1	2	0	3

The influence of alcohol and tobacco.—Data were collected only on the excessive use of alcohol and tobacco. As the table shows, these articles seem to have some influence on the production of phlebo-sclerosis.

TABLE II.			
	PS ₁	PS ₂	PS ₃
Alcohol.....	24%	18%	50%
Tobacco.....	51%	30%	66%

Influence of lead.—Only cases in which lead poisoning had occurred or was present were tabulated. Of 10 cases, 4 were negative, 3 had slight phlebo-sclerosis, 2 moderate phlebo-sclerosis, and 1 marked. In two patients who were suffering from lead poisoning the condition was tabulated as slight. Lead does not appear to have any marked influence.

Syphilis.—Only cases (22) with a clear history or showing lesions were considered. Syphilis seems to play no direct part.

Relation to Varicose Veins.—These were found in 11 cases, or 10% of those examined. Five had no phlebo-sclerosis, 5 had slight phlebo-sclerosis, and 1 a moderate degree. It would appear that varicose veins are not common when phlebo-sclerosis is present, and that the moderate and marked forms of phlebo-sclerosis show them less frequently than the

*Read before the San Francisco County Medical Society.

negative or slight cases. This agrees with Fischer's statement, that in phlebo-sclerosis the regeneration of the elastic tissue almost always appears so soon that dilatation of the vein does not occur.

Relation to infectious diseases.—There seems to be no relation between phlebo-sclerosis and infectious diseases, past or present; pulmonary diseases, tuberculosis especially, excepted.

Relation to the disease for which the patient came to the hospital.—During the investigation it was found that phlebo-sclerosis occurred more often in those patients having cough or a thoracic disease than in other conditions. Of 48 cases of this character examined, only 3 were negative, i. e., showed no phlebo-sclerosis. The diagnosis in these 45 cases was pulmonary tuberculosis 30, pleurisy 1, empyema 2, chronic bronchitis and emphysema 5, cardiac disease 6, adherent pericardium and aneurysm 3, carcinoma of larynx 1.

Chest diseases and cough then occurred in 66% of all positive cases, and if we add 7 more cases who gave a history of chronic cough, but who were tabulated under other diagnoses, we have 76%. Of the cases of intra-thoracic disease 58% showed slight phlebo-sclerosis, 31% moderate and 11% marked. Putting it in another way, 58% of all mild cases, 82% of all moderate cases and 83% of all marked cases, gave a history of cough or thoracic disease. These figures seem to show a great preponderance of the moderate and marked forms of phlebo-sclerosis in chest cases.

In support of this observation it may be said that in 1857 Virchow observed that in valvular lesions of the left heart or chronic affections of the lungs which cause venous stasis, not only the arteries of the lung, but also the entrances of the vena cavae and the liver veins show hyaline thickening. (In both classes of cases cough would be present.) Janvier also remarks in his thesis of 1903 that most of the cases suffered from well-advanced tuberculosis or intra-thoracic disease.

The cause of this apparent association was sought for. Many authors agree with Fischer and Thoma that phlebo-sclerosis, like arterio-sclerosis, is a general disease, with probably the same causes, though it may be local, that angio-sclerosis is an inflammation with unexplained etiology, that in the circulating blood toxins or products of disturbances of metabolism, etc., cause a disappearance, a degeneration of the elastic tissue and so a compensatory thickening—an angio-sclerosis.

In trying to explain this association of chest cases and phlebo-sclerosis, we first considered the possible action of a toxine circulating in the blood. Tubercular toxin seemed to fit the majority of cases.

Two cases were found who had tubercular sinuses lasting for several years—one of the elbow, the other of the shoulder. Both cases showed clinical signs of slight pulmonary involvement, but without much cough. In one of them there was no phlebo-sclerosis, in the other a very slight grade.

Again, two patients with very acute pulmonary tuberculosis were examined; one case had lasted six weeks, the other two months. In one there was no phlebo-sclerosis, in the other it was very slight. The absence of phlebo-sclerosis in these two classes of cases, those with the tubercular sinuses and those with rapid development of pulmonary tuberculosis, seemed to negative the tubercular toxine theory. The recital of the above cases is merely a suggestion.

That phlebo-sclerosis is capable of rapid development was shown by a case of chronic pericarditis, pleurisy and tuberculosis, who on admission was tabulated as slight phlebo-sclerosis; three months later one of the subcutaneous veins of his arm was like a pipe stem.

On seeking another explanation, cough was considered as a factor. The sudden increase of intra-

thoracic pressure which occurs on coughing causes a reflux of blood into the veins. The sharp impact of the column of blood injures the elastic coat of the vein; this injury being the starting point for the inflammatory or regenerative thickening. In one of his conclusions Sachs remarks that "diffuse phlebo-sclerosis and arterio-sclerosis are found mostly in those regions where the lateral pressure of the blood suffers quick or large variations which hinder the regulation of the vessel tonus." We have found, further, that in chest cases the phlebo-sclerosis occurs mostly or is most marked in the upper extremities. This might be explained by the fact that the column of blood, having a shorter distance and a more direct route to travel, the shock, and hence the injury to the veins, will be greater than in the lower extremities.

There is some difference of opinion among authors as to where phlebo-sclerosis shows itself most frequently. Bregman states "that the slighter grades of phlebo-sclerosis are proportionately more frequent than the moderate and marked grades, especially in the upper and lower extremities, the most marked, however, in the upper." The explanation offered is that in the propulsion of blood the supporting muscular contractions are fewer. On the other hand Sachs concludes that the veins of the lower extremity are oftener and more severely affected than those of the upper extremity.

In men doing heavy work, other things being equal, phlebo-sclerosis is found mostly in the lower limbs. The explanation assumed is that in heavy lifting or hard work of any kind a column of blood varying in height from two to four feet is the additional factor which determines the lower limbs to be affected more than the upper.

It is rather striking that in the chronic venous congestion of cardiac disease, the moderate and marked forms of phlebo-sclerosis are not common. This fact also lends some negative support to the view advanced above, that cough is one of the main factors in the production of phlebo-sclerosis and that venous congestion does not play such an important role.

Conclusions:

1. Phlebo-sclerosis is more common than is generally supposed.
2. While there is no direct relationship, age predisposes to it.
3. There is no direct parallelism between phlebo-sclerosis and arterio-sclerosis.
4. The excessive use of alcohol and tobacco seems to be an etiological factor, directly or indirectly.
5. Lead poisoning and syphilis, contrary to expectation, have probably slight or no influence on the production of phlebo-sclerosis.
6. The comparative infrequency of varicose veins in cases of phlebo-sclerosis seems to show that phlebo-sclerosis is a conservative rather than a degenerative process.
7. Previous infectious diseases (except tuberculosis) seem to play no part in the production of phlebo-sclerosis.
8. Apparently phlebo-sclerosis has no diagnostic or prognostic significance.
9. While there may be many causes of phlebo-sclerosis which we have not determined, the most important factor (judging from this short series of cases) is cough. The purely mechanical trauma being the starting point for the sclerosis.

Patients with long and thick foreskins, when suffering from gonorrhea, are rather unfavorable subjects for a speedy cure. The prepuce seems to keep the urethra in an abnormally hyperemic condition, thus favoring microbial growth.—*International Journal of Surgery.*

WIDENING OF THE PELVIS BY PUBI- OTOMY—SYNOPSIS OF A THESIS BY DR. A. VAN CAUVENBERGHE—SER- VICE OF PROF. LEOPOLD, DRESDEN.

Translated from the French by GRACE L. THORNE, M. D., Dresden.

IT IS within a comparatively short time that the operation of pubiotomy has begun to be really practiced. From all sides evidence is given of women successfully operated upon, and it seems well proven that pubiotomy is destined to rival symphysiotomy and Cæsarian section, with, of course, relative indications.

It is interesting in the light of the above statements to experiment on the cadaver, by taking measurements, in order to ascertain what changes take place in the pelvic brim in this operation, and what increase can be obtained without causing serious injury to the articulations. In other words, what the greatest degree of contraction is which permits of the operation. The cadavers were not selected. Women of different ages, nullipara and multipara, those having normal or abnormal pelvis were taken. Those only whose pelvis had been manifestly diseased were not used.

The operation on the living is comparatively new. According to Van de Velde, the first 5 operations were made by Bonardi of Lugano, 1897; Caederlin of Bologna and Van de Velde of Haarlem, 1901; Gigli of Florence, 1902, and another by Van de Velde of Haarlem.

The idea of the operation has existed for a long time, and was studied by Champion of Bar-le-Duc and Stoltz, but Gigli of Florence revived it in 1902 and gave to it the technic. Since 1902 the operation has been more and more frequently attempted, until up to the present day 33 cases have been published, 5 of which were performed in Dresden by Leopold and his assistants, with good results.

Pubiotomy consists in the artificial widening of the pelvis by means of section of the pubes near the symphysis. To clearly understand the changes brought about in the pelvis by the operation, measurements of the pelvic diameters must be taken before and after section.

The operation adopted by Doderlein and also successfully employed by Leopold will be described, as it seems the most simple.

A transverse incision two to four cm. in length is made over the pectineal eminence of one side, and a needle somewhat resembling a Deschamp, but longer and terminating in a small hook, is guided by the finger and passed along the posterior surface of the bone from above downward, and brought out through the labium majus, without a previous incision being made. A Gigli saw is attached to the hook, and both are returned through the wound. A spontaneous separation of the two cut ends of the bone occurs on section, which varies on the cadaver between 0.5 cm. and 1 cm. On the living, this separation is greater, and is increased on abduction of the thighs, and is often sufficient to allow of spontaneous delivery, which is the chief advantage of the operation. This should not be produced too violently, as Doderlein acknowledges that the injuries to the soft parts, and fever occurring in his fourth case, was due to a too rapid separation of the bones. It is advisable, in order to prevent a too sudden separation, to apply lateral pressure to the pelvis, or an elastic girdle that can be gradually relaxed.

How are we to measure the anatomical and obstetrical conjugate diameters? In the operation of symphysiotomy section, through the symphysis divides the pelvis into two equal halves. The antero-posterior diameter must end at a point which joins the two bony portions of the pubes, and which is nearly parallel with the transverse diameter of the

pelvis. In pubiotomy the conditions are not quite the same. Section of the pubes here divides the pelvis into two unequal halves. Experiments show that the smaller division (on the side of the section) is brought on a more anterior plane compared to the other side. Therefore, the plane that joins the bony surfaces will no longer be parallel to the transverse diameter, but will be at a certain angle to it. Consequently, the antero-posterior diameter terminates anteriorly at this plane also, at an angle, and is greater than that obtained by symphysiotomy. It should be added that the pubic bone is thicker at the symphysis than the ramus on either side. The operation having for its result the displacement laterally of the median portion of the pubes, the plane which joins the two bony surfaces will no longer be parallel to the transverse diameter of the pelvis, but will be at a less acute angle to it, so much the less acute owing to the greater thickness of bone—the antero-posterior diameter varying in proportion. The last fact explains why in some cases the antero-posterior diameter increases more rapidly than in others.

It is needless to add that after section the soft parts are put upon the stretch, allowing a still greater increase in the antero-posterior diameter. This is of practical importance. The right sacro-iliac articulation is weaker than the left. Therefore, if we exert equal traction on both articulations, the right one will be the first one to suffer injury, which occurs in symphysiotomy. In pubiotomy the result depends entirely upon which side the operation is made. If the operation is done on the right side, the traction made on the right sacro-iliac synchondrosis will be greater than on the left, and injury to this side will occur sooner. If the operation is done on the left side, it is on that side that the greatest traction is made—then either: (a) the difference between the resistance of the two articulations is very marked and the right is the first to rupture, or (b) the difference is less marked and both articular capsules rupture, or (c) both articulations are of equal resistance, and the left capsule ruptures first.

The results depend also on the distance of the section from the symphysis, the nearer it is to the median line, the more closely the operation approaches symphysiotomy. The results of the two operations resemble each other regarding the increase in the diameters. It should be remembered that the sacro-iliac articulation is more elastic in the gravid than in the non-gravid state.

The difference in the resistance of the sacro-iliac synchondroses results in an asymmetric widening of the pelvis. It is the side upon which the section is made which widens the most. The measurement of the oblique diameters best demonstrates the asymmetric increase of the pelvic capacity.

Before the operation the right oblique is generally greater than the left oblique diameter, which is to be explained by the greater use of the right leg. This difference in the oblique diameters is not constant in all instances. In one case the left oblique was greater than the right, due to an abnormality of the pelvis.

If the section is made through the symphysis, it has been shown by Doderlein that the left oblique begins to increase first and to a greater degree than the right, due to the difference in the resistance of the two articulations.

Pubiotomy confirms these results. If the section is made on the left side, it is the left sacro-iliac synchondrosis that yields the most, or at least more than with a symphysiotomy, or right-sided pubiotomy, and the right oblique diameter increases more than the left.

We see by given instances that with a limited or moderate separation of the pubic bone the sacro-iliac articulation corresponding to the operated side yields the most, but on a still further separation the latter also yields a little.

In the first stage, then, the oblique diameter cor-

responding to the operated side increases first. In the second stage the opposite oblique diameter increases, sometimes equaling that of the operated side. In the third stage the latter increases still more, and the difference between the two diameters becomes again greater. The antero-posterior diameters increase a little at first. On further separation of the cut ends of the bone from 2 cm. to 4 cm. they increase still more. Finally, however, this increase is lessened by the rotation of the ilia as on an axis.

With a separation in front of 4 cm. the conjugata vera on an average reaches nearly the maximum increase of 1.6 cm. In one instance only an increase of 1.3 cm. was obtained. The case was a woman 74 years old, and after a separation of 4 cm. the articular capsules ruptured.

With a separation of 6 cm. the increase in the conjugata vera varies from 1.7 cm. to 2 cm., the last figure being more frequent. The transverse diameter increases under the same conditions 2.5 cm. to 3 cm.

On separating the pubes 4 cm. to 5 cm. the sacro-iliac articulations stretch about a finger's breadth, slightly more on one side than on the other, according to the side on which the section is made. This space is measured from the anterior borders of the articulations and averages from 2 cm. to 3 cm.

Before concluding we will add a few words about bilateral pubiotomy. In order to ascertain how much the antero-posterior diameters are increased by the operation, two very different cases were taken. Section on either side of the pubes was made, without disturbing the position of the internal genital organs. The median portion, as liberated by the section, was carried as far forward as possible. After section the conjugata vera showed an increase of 1.2 cm. We can only take the conjugata vera into consideration in bilateral pubiotomy, as the median parts are not fixed. The experiment shows that the antero-posterior diameter increases in the same degree as in unilateral pubiotomy. As for the other pelvic diameters, they are the same as for symphysiotomy. As to its results the question of complete recovery always remains doubtful.

Simple or unilateral pubiotomy gives such good results that it seems inadvisable to run the risk of a more complicated operation. In cases where high degrees of contraction exist, the operation would be according to the case—embryotomy, Cæsarian section or a Parro. Viewed from another standpoint, however, bilateral pubiotomy seems to offer great advantages, and it is in such cases where pubiotomy has already been performed, pregnancy again occurring and an operation has to be considered.

Attention may be called to the splendid results obtained by pubiotomy in a woman who had again become pregnant, mentioned by Van de Velde in his third case. He allowed a space a finger's breadth to remain between the cut ends of the pubes. After 3 weeks a sufficiently firm callus formed, and the pelvis remained permanently enlarged. Since then he has adopted this method, and has had good results.

It may be observed that in symphysiotomy a separation of the articular surfaces is not allowed to exist. If later such a separation is found, it is to be looked upon as an accident, though a fortunate one sometimes.

There are cases where the permanent widening of the pelvis does not suffice. Then a pubiotomy of the other side can be easily made in event of the woman again becoming pregnant. The separation of the bony surfaces need not be as wide as in the first operation, and a callus is certain to form. In such an operation all the advantages of pubiotomy are combined.

Conclusions. A separation of the cut ends of 3 cm. gives an average increase as follows: Conjugata vera 1 cm., transverse 1.4 cm., oblique 1.3 cm.

A separation of the pubes 4 cm. causes no injury to the sacro-iliac joint.

A separation of 6 cm. is not advisable, although the conjugata vera increases 1.8 cm. to 2 cm., and the articular capsules usually rupture, but in some cases we have made a separation of 8 cm. with no rupture.

What degree of contraction is the limit of the operation?

There are many cases successfully operated upon where the conjugata vera measured only 7.5 cm., and even 7 cm.

It seems to us that above all the size of the child should be taken into consideration. It is precisely for the reason that the first child is smallest usually that Leopold has seen so many primipara deliver spontaneously, even where the conjugata vera measured only 7.5 cm. But assuming the child to be of medium size, 7 cm. is not the extreme limit of contraction. It is in fact generally admitted that a conjugata vera of 6.75 cm. is the greatest degree of contraction fixed by symphysiotomy. (Morisani, Pinard, Zweifel.) Furthermore they admit that with symphysiotomy the conjugata vera increases only 1 cm., even where the bony ends anteriorly are separated 5 cm.

We may be permitted in the light of results from experiments on the cadaver, to allow for pubiotomy a limit below 6.75 cm. fixed for symphysiotomy. We believe that we do not go too far in saying that 6.5 cm. is the limit.

The side for operation is the one on which we wish to obtain the longest diameter; that is to say, in a head presentation, the side to which the occiput points, or if version is anticipated, the side on which the extremities are felt. We will, however, make this reservation. In spite of the advantages of this side for operation it is contra-indicated in extensive varicosities, hernia, etc.

The operation is performed on primipara, with much less danger than symphysiotomy. The bladder and urethra retain their support in the median line, the soft parts are thicker laterally than in the median line, and finally there is no danger of hemorrhage.

We found no particular advantages in bilateral pubiotomy. It does not give better results. On the contrary, the chances of complete recovery are not so promising.

SEMI-ANNUAL ADDRESS OF PRESIDENT OF SANTA CLARA COUNTY MEDICAL SOCIETY.*

By J. LAMBERT ASAY, M. D., San Jose.

THIS is the last meeting of the year by virtue of the by-law you have made to accord with the rules of the Medical Society of the State of California. Though this change in our official year has been operative but six months, its advisability has been proven. It is owing to these altered conditions that I now ask your attention for a few moments to some thoughts which have occurred to me during my administration as your President, and which I believe worthy of your consideration.

Growth and Prosperity. Of the growth and prosperity of your society others may speak rather than myself. Certainly much has been accomplished by having an efficient Secretary to whom is due every praise for his thoroughness and painstaking endeavors. He has spared neither time, labor, personal, nor pecuniary sacrifice to help build up this society. He has made his office what it should be, the key to the enviable position the society holds as a unit in our State organization.

It has been your good fortune, during my term of office so far, to have active standing committees. The Committee on Ethics, contrary to usual custom, has had much to do and has done it well, as its reports show. The Executive Committee is to be commended for its industry, discretion and perse-

*Read before the Santa Clara County Medical Society at the Semi-Annual Meeting held December 20, 1905.

verance in providing suitable quarters for our meetings; for their selection of papers and clinical cases which have afforded able discussion and profitable entertainment. The Finance Committee has been energetic and successful in its plans to place the society on a permanently sound financial basis, thus doing away with irregular assessments, which, though at the time necessary, were nevertheless, always unlooked for and undesirable. With all this, what good could have accrued without your presence at our meetings; your manifested interest in the work; your unlimited expressions of approval and marked enthusiasm? To you as members, and not forgetting the "Old Guard" whose numbers still distinguish themselves at roll call and are among the first to cry "advance," let me commend your loyalty; your zeal; the courage of outspokenness with which you have met every issue. Let me praise you for your scholarship and intelligence as demonstrated in our clinical exhibitions and scientific discussions, and besides these for your efforts in placing your society, though fourth in numerical strength, in the lead in potency, good influences, and professional importance of county organizations in California.

Let us not be content with what we have already gained. If we would wear the laurels we must strive for and win them. Do not halt, but go on in this grand plan of organization until every ethical licensed physician in Santa Clara County, who is not stuffed and hindered with self-vanity; shackled with his small individuality; his jealousies; his pathy; his open indifference to the welfare of the whole; the doctor who declares he can learn nothing by association with his fellows, shall be brought in and enrolled as a member of this society. Experience teaches that, with little effort on your part, this can be done. We must do it. If we judge by the history of the past and the indications of the present, in a year more the medical profession of this State will again be assailed in the halls of the legislature with more determination and by forces better equipped than ever before; the unlettered and unlearned; the venal hordes which in times gone by have sought our professional ruin. These will be encouraged by a hostile press subsidized by the association of nostrum and patent medicine proprietors. As once before the Eddypaths, osteopaths, naturopaths will combine and rally under the leadership of the mercenary and baser element of our own schools to repeal our ideal law, that the innocent and unsuspecting, looking for some miracle to heal their ills; some newly invented device to restore to their emaciated bodies the fulness of health, are herded as a golden feast for the cunning charlatans of the earth and the disciples of fanaticism. The assault upon us will be fierce; the struggle desperate. We need reinforcements to oppose them and snatch a decisive victory.

Education of the Public. The education of the public in matters relating to it and the physician should receive our consideration. Let us invite the intelligent laity to our meetings to hear a discussion in which it should be interested and take part. For instance let us ask the clergy to come and listen to a dissertation on secret medicines and nostrums that defile the body and destroy the soul by producing the cocaine and drunk habit, which have been exposed in *Collier's Weekly* and our own literature, that these reverend gentlemen may in turn warn their flocks of danger from their use. At another meeting let us call in the lawyers and judges of our courts. Expound to them the usefulness of our medical law to themselves and the people. Show them why courts ought to select their own medical expert witnesses instead of depending upon the testimony of those appearing on behalf of either side to the controversy. Again it would be well to have a talk with the educators in our public schools, and by no means should the druggist be overlooked.

Revenue. While our organization is professional, yet it cannot be divested of certain financial problems. This like all county societies cannot exist without revenue. Commerce, trade, banks and all business assume that their fiscal year begins on the first day of January and ends the following 31st day of December of each calendar year. Our State organization and this society have by proper legislation adopted this rule.

Our obligation to the State Society of two dollars annually on each person carried on our rolls on the first day of January of each year and payable to it not later than the first day of February following should, in all business honor, be promptly met. This, however, cannot be done unless members carry into the affairs of the society those business rules of scrupulous promptness which govern their other personal dealings and liquidation of indebtedness. It is extremely embarrassing to the finances of the society to have members procrastinate in these payments and permit them to drag along to the year's end when the dues of the next year become due. This is to be attributed to thoughtlessness on the part of the delinquent together with infrequent attendance at, or total abstinence from our meetings. There are drones in every hive. This society is no exception. It is neither the duty of the Secretary nor Finance Committee to go from office to office, soliciting payments, but rather that the member be present at the meeting of the opening year and then and there cancel his debt, or if unable to be present then to respond quickly to notice of such delinquency sent him by the Secretary.

The annual dues to this society are "payable in advance on or before the date of the regular meeting in January." Each member should be careful not to delay his payment beyond this time, not only that punctuality may characterize our remittances to the State Secretary, but that it will lighten the burden of our own Secretary and save him the mortification and the society the expense of persistent dunning.

Strict interpretation of our by-laws would determine that no member is in good standing until his dues are paid. He is therefore debarred from certain privileges without absolutely losing his membership in both this and the State Society until the expiration of the year.

Codifying Amendments to By-Laws. Our laws have been so amended and altered from the original in the last three years, owing to necessity in conforming to the regulations of the State Society, that in some instances the language is ambiguous and the intent uncertain. I recommend that a committee be appointed to codify all such amendments and to suggest to the society any further alterations in our by-laws it may deem advisable, upon the adoption of which a sufficient number be printed for distribution among members.

Business Meetings. As our society grows, business accumulates and is often hurried without sufficient consideration, to give room for full reading and ample discussion of scientific papers and clinics. Hence either one or the other must suffer from this circumstance. I am loth to cut short a paper or limit it to a specified time. I would not have it emasculated, for it may have taken the writer thereof weeks, months or years to prepare it. One of two things is then necessary; either to follow the examples of San Francisco, Alameda and some other county societies, and have the routine business transacted by a board of councilors in which might be included, beside the officers of the society, the four principal standing committees, viz., Executive, Finance, Ethics and Admission. Or the society should hold two stated meetings in the month, one devoted to business, the other to clinics and reading of papers.

Contract Practice. The last subject to which I

shall refer, I approach with hesitancy and reluctance, but I believe it would savor of moral cowardice to pass it unnoticed. It is the matter of contract lodge and hospital practice. I bespeak for it your calm and dispassionate consideration. I am not sure that there is not a resolution on our books of several years' standing condemning and forbidding it. If so, it has become a dead law. Our older members know of the written agreement made for three years and signed by every physician then practicing in this county that not one of them would engage in such contract work, and how upon the expiration of its term the doors were again opened wide to this very questionable practice.

The State Society in a written communication to this and all county societies has requested each to express its views concerning the ethics of lodge and hospital contract practice, that it may take action on the subject at its next meeting in April. Many of the county societies have responded, all giving their opinion that such practice is unethical. This society, as yet, has given no definite answer, hence its vote neither for nor against is recorded.

For my own part I regret that contract lodge and hospital practice has been revived in this county. I believe it to be highly detrimental to the best interests of our profession and that it lowers the dignity of our calling in the very minds of those who employ lodge or contract doctors. A great percentage of the members of such societies and lodges belong to labor unions who insist upon and will not work for a less wage than that fixed by their union, even though he be an incompetent. These lodges and societies make no contract with the butcher, the baker, the grocer, the milkman nor clothing merchant for community rates. They regard the goods of these tradespeople of far more values than the services of a lodge physician and look upon the latter and druggist as legitimate prey. Labor unions denounce as "scabs" all who violate union rules and boycott the physician as readily as any other employer who hires non-union labor. While, in their unions, lodges, or societies, these persons are mindful of their own interest and exacting for themselves in wages and restricted hours of work, they seem wholly disregardful of those who by virtue of a profession are unable to affiliate with their unions or federated trades. In a word they always buy where they can buy cheapest, more often without regard to quality, and the services of a physician are no exception to other purchasable commodities. They also realize that the physician's hours, from the very nature of his profession, are not and cannot be circumscribed, therefore he is a fit subject for vassalage and his employment by them is servile.

I am adverse to using harsh measures at the present time to control lodge practice. I would rather we attempt to educate the conscience and appeal to the manhood of these physicians. If we can make them see that, for an ephemeral money benefit, they are surely injuring their own future social and professional advancement; that they are degrading their profession and humiliating their professional brotherhood; that but a bare existence, a reputation for cheapness and mediocrity lies ahead. I believe they will soon cast the evil aside. Let us do a little missionary work. Try persuasion again. Send out your committee once more, perhaps this time the heaven that leaveneth the whole lump will work. Let professional ostracism be our last resort.

The transformation of uterine fibromata into malignant growths is comparatively common, and hence the possibility of such an occurrence should always be taken into consideration in the prognosis and treatment.—*International Journal of Surgery.*

THE PROPRIETY OF CHOLECYSTECTOMY AS AN INITIAL PROCEDURE IN GALL BLADDER SURGERY.*

By THOMAS W. HUNTINGTON, M. D., San Francisco.

THE following case aptly illustrates several points which are of extreme significance in gall bladder surgery:

First: The necessity for the preservation of the gall bladder for purposes of direct drainage in certain cases. Second: The occasional necessity of the establishment of an artificial communication between the liver and the duodenum in the presence of permanent obstruction of the common duct. Third: The impropriety of cholecystectomy as an initial procedure unless the present and future patency of the common duct can be absolutely assured.

The patient was a stout plethoric woman, 55 years of age, married and mother of several children.

Family history unimportant.

There was no history of typhoid fever nor other previous illnesses. Was perfectly well until about 10 years ago, when she began to experience occasional attacks of so-called acute indigestion. These attacks were always accompanied by pain, sometimes severe, and were frequently accompanied by vomiting. Icterus of brief duration was an occasional, though not constant feature of these attacks. From year to year her trouble became more accentuated and for the past 2 or 3 years she has undergone several severe illnesses which were directly in line with the foregoing history. On these occasions she would frequently have a chill, followed by fever, vomiting and later the skin would manifest a more or less positive icteric stain. During these exacerbations it was noted many times that the stools would become clay-colored, while the urine would present the usual changes. Absence of bile in the stools would sometimes persist for several days after partial recovery from such an attack.

On the 9th of April, 1905, she was subject to an unusually violent attack suggesting strongly a gastric crisis. The pain was so severe as to cause shock almost to the point of collapse. I saw her on the morning of April 10th in consultation with Dr. Edna R. Fields. During the previous night morphine had been administered freely, temperature had risen to 103½° and the patient's condition was such as to arouse one's apprehension. She was markedly jaundiced. On inspection the abdomen was found to be slightly distended and there was tenderness on palpation over its entire area. Tenderness, however, was focalized at the Mayo-Robson point, where she was acutely sensitive and sharply resented efforts at percussion. Deep pressure at this point was intolerable. For the past 48 hours stools had been almost entirely devoid of bile pigment. A blood count showed a leukocytosis of 22,000. The diagnosis of gall bladder disease was definitely made and operation determined upon the following day.

On exposing the gall bladder by a vertical incision on the outer border of the right rectus it was found about the size of a large Bartlett pear. It contained 16 large stones. The walls of the gall bladder were greatly thickened and gave evidence through adhesions to adjacent structures of repeated inflammatory attacks. In addition to the gall stones the bladder contained about 4 ounces of thick, grayish, syrupy, opaque fluid. Careful examination failed to disclose a stone within the common duct. At this juncture I was strongly inclined to accept the teachings of many accredited authorities and remove the gall bladder, on the ground that it was structurally abnormal and that it might ultimately become a menace to the patient. Upon second thought I determined to adopt the more conservative policy and preserve the organ. This conclusion was based upon two considerations: First, I believed that free liver drainage would be of positive advantage as a temporary matter; second, because I was confronted by the fact that there had been at times entire obstruction in the common duct and I had no assurance that such obstruction might not occur later in the history of the case. The subsequent history of the case clearly

*Read before the California Academy of Medicine.

proves the wisdom of this precaution. The operation was completed in the usual way by draining through a large rubber tube held closely in the fundus of the gall bladder by a purse-string suture, the tube being attached to the skin. Main wound was then closed. At the end of 24 hours there was a profuse discharge of bile from the tube and the patient's condition was greatly improved. The drainage tube was removed on the 5th day, but the discharge of bile through the remaining sinus was profuse. The temperature, although lower than at time of operation, still persisted a little above the normal and for several weeks subsequently her temperature would rise in the afternoon to 101°. A few days after operation bile ceased to flow through the common duct and stools were absolutely clay-colored. On the 31st of May, about 7 weeks after the operation, the following record was made:

Condition remains unchanged, biliary sinus still discharging a large amount of bile, stools persistently clay-colored. This morning, under ether, I reopened the abdomen midway between the old cicatrix and the median line, making a large incision. A careful examination of the cyst and common ducts showed the absence of stone and there was no apparent cause of obstruction along the latter. The head of the pancreas was found greatly enlarged, very firm and resistant, suggesting the possibility of malignancy, or of what was more probable, a chronic pancreatitis. Feeling that there was a grave doubt as to the propriety of making an attempt to establish patency of the common duct by approaching the structure through the duodenum and the ampulla of Vater, a cholecyst-enterostomy was determined upon. To accomplish this I used a linen thread uniting the lateral surface of the gall bladder to the anterior surface of the duodenum after the plan of McGraw. The point of anastomosis was fortified by a row of Lembert sutures to insure against leakage. The operative wound was then closed, but the gall bladder sinus remained opened as formerly. Patient rallied quickly, but the result of the effort was entire futile. Three weeks later I dilated the sinus and reopened the anastomosis by means of a small knife. Still there was absence of bile pigment in the stools and the original sinus continued to discharge as previously. On July 4th I determined to close the sinus. This was done by carefully separating the fundus of the gall bladder and exposing a sufficiently large area to permit of suture and infolding. This was easily accomplished and within 2 or 3 days bile appeared in the stools for the first time in nearly three months. Patient's recovery was rapid and at the present time she is living a perfectly comfortable life. Stools are normal. For the past three months she has had no fever or suggestion of the old pain. Appetite is good, she has regained her weight and has resumed all her activities.

Cholecystectomy as a deliberately planned initial undertaking is applicable under the following circumstances: In extensive trauma of the viscus, where immediate suture is impossible. Second, where there is evidence of long standing impermeable stricture of the cystic duct. Third, in gangrene of the gall bladder. Fourth, in malignant disease of the gall bladder. Doubtless there are other conditions, such as a greatly contracted and shrunken gall bladder, due to long standing cholecystitis, but as a general proposition I have for a long time been impressed with the idea that there is a positive danger in the removal of this organ at the time of first operation, because of the fact that an overlooked stone in the common duct, or the associated common duct changes as the result of a cholangitis which preceded, and which may persist long after the removal of the gall bladder, may entail disaster to the patient.

Very recently I was called to see an elderly woman who had undergone a cholecystectomy 3 months previously. The operative wound healed kindly, but the

patient's general condition remained even worse than before the operation. There had been frequent rigors, with rise of temperature, great prostration, clay-colored stools and gradual decadence. Patient's condition became almost desperate and the question of an attempt at re-establishing the patency of the common duct was seriously considered. Fortunately, about this time a stone of considerable size escaped from the common duct and was recovered in a stool. This was a happy solution of a very serious problem. Had the gall bladder been retained at the original operation, the subsequent progress of the patient would undoubtedly have been along safer and more rational lines.

In the July number of the *Annals of Surgery* for 1905 William J. Mayo describes a case in which, during a cholecystectomy, an effort was made to re-establish the patency of the common duct, which was found to be greatly contracted. This resulted in a permanent biliary fistula. The common duct was so hopelessly obliterated that it was impossible to re-establish its function as a channel of communication between the hepatic duct and the duodenum. By a very ingeniously planned and deftly executed operation Mayo finally succeeded in making an end to side anastomosis between the hepatic duct and a loop of duodenum. Although the patient survived in this instance it is perfectly fair to assume that such an undertaking in a considerable number of cases would be attended by failure so far as the anastomosis was concerned, and with a high mortality rate as an end result. Mayo's comment at the close of his article is as follows: "I would here remark that the original removal of the gall bladder was unfortunate as a cholecyst-enterostomy would have been far easier as a second operation. Since that time I have been more conservative about the removal of the gall bladder in connection with common duct surgery."

My own belief is that with the accumulation of evidence such as that presented by my own case surgeons will become more conservative as to their estimate of the value of cholecystectomy not only in demonstrated common duct interferences, but as well in a large number of cases, where there is a reasonable possibility that common duct obstruction may become a more or less remote manifestation.

I can conceive of no more discouraging situation than that of the surgeon who is confronted by a patient who has undergone a cholecystectomy, and who has later developed an impervious common duct. Under these circumstances one of two things will be inevitable: either the immediate re-establishment of a biliary fistula of the old cicatrix or its immediate environment, or rapid dissolution. While life might be prolonged by the former incident, the hope of a permanent cure is minimized to a marked degree if such a termination be not impossible. For this reason I am prepared to subscribe to the doctrine that in all cases where an immediate cholecystectomy is not absolutely imperative the gall bladder shall be retained for purposes of drainage until the permanent patency of the common duct is clearly demonstrated. If under these circumstances the biliary sinus persists and becomes intolerable to the patient it is a comparatively simple matter to remove it as a secondary procedure. On the other hand, if permanent closure of the common duct rendered the step necessary a secondary cholecystectomy is a rational and uniformly safe operation. With my experience in the foregoing case I shall in the future proceed along different lines to those herein recounted. It would clearly have been a better procedure at the time of the second operation to have made a side to side anastomosis between the gall bladder and duodenum, following scrupulously the technique which is widely in vogue in doing gastro-enterostomy by the Moynihan method, and at the same time closing the biliary sinus as was finally found to be necessary. This would have shortened the duration of the case by

something like 2 months and would have avoided the risks of repeated anesthesia, which I have come to weigh not lightly. It may be suggested that the side to side anastomosis could be avoided by separating the gall bladder and anastomosing the sinus opening with the duodenum. This would have been impracticable for 2 reasons:

First, because the peritoneal covering over the fundus of the gall bladder had lost its identity and the structure about the sinus orifice could not have been safely joined to the duodenum. Second, the gall bladder was so involved in adhesions that to have liberated it sufficiently to have brought the sinus orifice into apposition with the duodenum would have been practically impossible, at least it would have added a serious risk to the patient.

RECENT COMPLETE TEARS OF THE PERINEUM.*

By GEORGE B. SOMERS, M. D., San Francisco.

INJURIES of the perineum are of interest to every physician who engages in general practice. They are very common and occur in the hands of even the most skillful obstetricians. When we consider the enormous number of children that are born into the world and the disproportion between the size of the unborn and the size of the canal through which nature forces them to travel, one wonders that injuries are not more common and more severe. It is true that we find many practitioners who maintain that they have confinements by the thousands and never meet with an accident to the perineum, but we cannot help feeling that such happy individuals do not find these accidents because they do not look for them.

So wonderful is nature's reparative process, that even in very severe injuries, the parts are often restored to fair condition, without any assistance on the part of the physician. But there is one form of injury, which is always too much for nature alone to cope with and requires skilled interference in order to effect a cure. I refer to complete tear of the perineum. The complete tear of the sphincter of the anus is followed by such a retraction and separation of the injured parts that spontaneous cure is almost impossible.

It is hardly necessary to speak of the serious nature of this injury and its consequent importance both to patient and physician. When any lesser degree of injury occurs, we may trust to nature, or refuse to recognize it or perform any excuse for an operation and feel confident that no immediate bad results will be noticed by the patient; for it is a peculiarity of incomplete tears that the bad results are usually remote; that is to say they show themselves only after several months or perhaps several years.

When the injury is complete, however, the issue must be squarely met. Neither physician nor patient can be deceived as to the actual condition present. In the first place an injury is present which will not cure itself and which both at once and for all time until cured, will be accompanied by all the deplorable consequences of bowel incontinence. In the second place the physician knows that in order to effect a cure, he must prepare to carry out a careful, well-equipped surgical operation.

On top of this comes the undeniable fact that in a large number of cases, even where a careful operation has been carried out, it proves unsuccessful. Reed states that "union may be said to occur in less than 50% of even favorable cases," and that "the practitioner in justice alike to himself and his patient should, before attempting an immediate repair of these injuries, explain that the majority of such operations are failures." This is truly a sorry confession and to undertake an operation with such a confession on the lips is discouraging and conducive to anything but good and careful work.

As for deliberately postponing the operation until a secondary repair can be made, there is no excuse whatever. I do not see any good reason why the operation should not be successful in the great majority of cases, and if we can but get a union of the sphincter, let alone the rest of the perineum, the gain for the patient will be immense.

If the proportion of failures is in fact large, then it becomes our duty so to improve the technic that we may undertake the operation with confidence and with the assurance that the chances are largely in favor of success.

Complete tears of the perineum naturally fall into two distinct groups, the recent and the old. Recent tears are of interest principally to the general practitioner and the obstetrician, while the old more often fall into the hands of the gynecologist and surgeon. So marked is the difference between these two forms, in the conditions surrounding them, in their pathology, prognosis and treatment, that they require separate consideration. I propose to pay particular attention to recent injuries.

Causes. In a country of magnificent distances, like Nevada, where the majority of the profession spread their field of practice over several hundred square miles, it would seem that this accident would be peculiarly liable to happen; for many births must occur before the physician can arrive to take charge of the labor and protect the perineum. But as a matter of fact the proportion is not so great as in the cities where the physique of women is poorer and the dangers of meddling midwifery very much greater. When a woman is able to give birth without assistance, it usually bespeaks no complication. The majority of bad tears occur in complicated labors, where interference is necessary and instruments are used. Malpositions requiring versions; hemorrhage and eclampsia necessitating forced rapid delivery are the most frequent causes.

The accident therefore is most likely to occur under the very eyes of the attending physician and there is no excuse for overlooking it.

Prophylaxis. Regarding prevention, my own experience in obstetrics leads to the following conclusions: (1) The lateral position in confinements gives the very best control over the advancing head and enables the accoucheur best to protect the perineum. (2) That the shoulders do more harm than the head in passing over the perineum. In many cases the arms may be delivered immediately after the head by rotating them on the chest. This device relieves the perineum very greatly. (3) When forceps are used the delivery should be as slow and deliberate as circumstances will permit. The majority of instrumental deliveries are entirely too rapid. Ample time must be given in order that the tissues may stretch and adjust themselves while traction is being made.

Characteristics. In a fresh laceration the parts have a very characteristic appearance. The wound is rough and irregular, presenting numerous shreds along the torn edges. The raw surfaces are covered with clotted blood. The surrounding tissues are livid, swollen, edematous showing little tendency to contract. Just here we have clearly indicated the most urgent reason for attempting an immediate repair. Owing to the overstretching and semi-paralyzed condition of the tissues, the parts that belong together remain in contact for some little time before contracting and where they are united at once we stand a better chance of getting accurate union.

The outer portion of the wound, that is to say the portion extending through the skin from vagina to rectum, is usually single and in the median line. When the tear goes off to one side, it is more likely to miss the sphincter and make its way deep down beside the bowel. Within the vagina, the wound is often complicated by branching off in two directions, following along each lateral sulcus.

* Read before the Nevada State Medical Association, May, 1905.

Let us suppose that we are about to treat a complete tear of the perineum that has occurred in a patient living in some out of the way cabin. How shall we go about it? What are the weak points of the usual technic?

Faults in Technic. The first thing to be determined is where shall the operation be performed, on the bed or on a table. The bed is a very bad place on which to perform a surgical operation. The patient cannot be placed in good position, the light is usually bad, the assistants and anesthetizers occupy awkward positions and the part to be operated upon is too low for the physician to work in comfort. With all these objections I suppose more perineums are repaired on the bed than ever reach a table. Yet no home is so poor but that it affords a kitchen table. This may be made an ideal operating table by covering with clean sheets and a Kelly pad. With good light, with the patient in good position, with your instruments within convenient reach, and lastly but not least, with a comfortable seat, it is easy to do good work.

Regarding assistants; every man who practices in the country is accustomed to make use of unskilled persons. In a perineal operation the legs can be held to better advantage by even an unskilled person than by any of the various leg-holders that have been devised.

The next point is the use of irrigation. The favorite solution with most physicians is bichloride, largely I suppose on account of its convenience. But I consider that it is a very bad solution to play over a raw wound. Where it comes in contact with a fresh wound it forms a coagulum on the surface which does not leave it in good condition for immediate union. It is much better to use the principle of asepsis rather than antiseptics and use boiled water or normal salt solution.

Another detail is the free exposure of the wound. This is best done by drawing the edges widely apart by means of vulsellæ. These instruments should be held by the assistants. The wound cannot be properly united unless its full extent and nature are plainly seen.

Sutures. When the wound has been properly prepared by trimming and washing the suture material must be selected. Shall it be silk, silkworm-gut, silver wire or catgut?

Before considering this point, it must be remembered that the tissues to be sutured are swollen and as healing progresses will shrink considerably. Again owing to the lochial discharges and the proximity to bladder and rectum, the parts are peculiarly liable to infection. These considerations must determine our selection of the material most suitable for suture.

Silk, I believe to be most unsuitable. It is true that it is easy to procure, easy to handle and easy to sterilize. But in my experience it has proved a failure, and I am sure that any one who uses silk habitually will confess to having many stitch-hole abscesses. No matter how carefully prepared, silk is, from its structure, easily contaminated and harbors infection within its meshes.

Silkworm gut is a hard, impenetrable substance and therefore in itself it cannot be infected. But it is stiff and unyielding and on this account is unsuitable for a tissue that is destined to shrink. In such cases it will often be found hanging loose in the tissues or even holding the edges apart.

Silver wire gained its early reputation through its use in vaginal work in the hands of Marion Sims. It is a most excellent material and its virtues are too often overlooked. I am sure that much better results could be recorded in work about the perineal region, if it were used more frequently. It has the invaluable quality of being in itself an antiseptic material. As regards stiffness it has the same objections as silkworm gut, but is superior in that if found loose, it may be easily tightened by

twisting the ends. As a retention suture it has no equal.

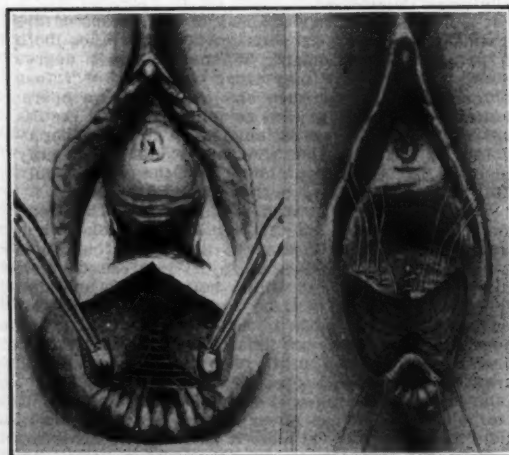
Catgut deserves special attention as a perineal suture. Its chief virtue lies in the fact that it may be buried in the tissues and therefore used as a running or continuous suture by which a wound may be effectually sealed. Its chief disadvantage is that it is difficult to sterilize and keep, but these difficulties have been overcome by the various manufacturers, who supply catgut in small, convenient, sealed packages which may be opened as needed.

On the principle that the suture should be selected to fit the requirements of the wound, I believe that for a fresh tear, catgut and silver wire form the best combination.

Interrupted or Continuous. Now, supposing that the wound has been properly prepared for coaptation, how shall the edges be brought together? We may choose either interrupted or continuous sutures. The majority of operators use the interrupted because it is the simplest and easiest to insert, but I believe that it is responsible for many failures. Interrupted sutures interrupt the circulation. If the tissues are filled with a mass of tied sutures, the blood supply will be seriously interfered with at each point where a suture is tied. The ideal suture should bring the surfaces together without force and without interference with the circulation, for the vitality of the tissues and their power of uniting quickly, depends upon an unrestricted blood supply. The continuous suture answers these requirements better than any other.

Technic. To go on then with the operation, the bowel tear must first be repaired. It is necessary to seal the edges effectually against the invasion of bowel contents. This cannot be done with an interrupted suture. The latter not only leaves avenues of infection between each stitch, but the projection of the stitches into the bowel invites infection by capillary attraction.

In order to seal this part of the wound, it should be brought together by a continuous, fine chromicized, catgut suture, starting at the upper angle and passing firmly through the tissues so as to bring the edges of the mucosa together without penetrating into the bowel.



(Fig. I. Bowel closed by continuous suture. Ends of sphincter fished out.)

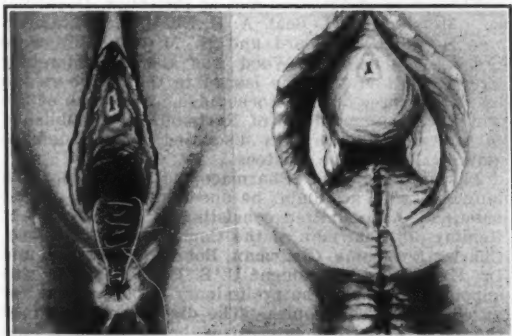
(Fig. II. Faulty technic. Ends of sphincter still buried.)

As soon as the bowel rent is closed, attention must be directed to the sphincter. The essential point of the whole operation is of course to unite the divided ends of this muscle. In the usual operation the raw surfaces in the vicinity of the divided ends

are simply pressed together without making any attempt to ensure muscle coming in contact with muscle.

I wish to call attention to the necessity of bringing the ends directly together, without the possible intervention of any other tissue, not trusting to a chance union but actually isolating the muscle and uniting it under the guidance of the eye.

Fishing. This may readily be done by fishing for the retracted ends with forceps. The muscle is enclosed within a sheath and each end may be caught and drawn out. When exposed it is easy enough to unite the ends with a couple of interrupted chromicized catgut sutures.



(Fig. III. Ends directly united.)

(Fig. IV. Sphincter reinforced by silver wire. Rest of wound closed by continuous suture.)

To reinforce these sutures, silver wire should be inserted through skin and muscle entering and emerging a little over a quarter of an inch from the median line.

The rest of the wound may be closed in any way that best suits the operator, but I believe better results will be obtained if continuous catgut is used. The precaution should be taken of inserting the sutures rather deeply so that a firm hold on the tissues may be obtained. In the after treatment it is not necessary to catheterize. Each time after urinating the parts should be doused off with liquor cresolis composuit solution. Within 24 hours the bowels should move. Saline cathartics are best in order to procure watery movements. One or two movements must be procured daily for the first two weeks, and it may be necessary to give Rochelle salts twice a day in order to be effective. The diet should be very light. The silver wire suture may be left in 3 weeks.

As for douches, none should be given unless there is some odor to the vaginal discharge. In that case one or two douches of liquor cresolis composuit may be given daily.

MERCURIAL INJECTIONS IN SYPHILIS.*

By HOWARD MORROW M. D., San Francisco.

IT is generally admitted by clinicians that one large dose of mercury given hypodermatically has an action equal if not superior to pills of mercury given over a period of five or six days. The needle must be passed through the subcutaneous tissue into the muscle—the outer side of the gluteal region being the best location. If the needle and syringe are absolutely clean, and the skin sponged with alcohol, there is no danger of infection and large inflammatory areas are prevented by not giving injections at the same spot except after a lapse of a week or more. Whatever preparation is used, the first injection must be small on account of the possibility of

the patient being very susceptible to hydrargyria. After that the dose must be increased until the lesions begin to fade rapidly or until a reaction from the mercury occurs. The quantity of mercury in each preparation must be kept in mind as well as the reaction from the dose—carelessness in this regard explains why one patient is cured by using such-and-such a salt of mercury, while another derives but little benefit. One object of this paper is to bring out the fact that many preparations act well if properly given, there being little choice between many of the soluble salts.

The soluble preparations are given in water and the insoluble ones in oil—this is a very important point because with injections of oil there is always the possibility of embolism. Several fatal cases have been reported. Klotz reports twelve cases of embolism in his series of over two thousand injections. This is probably the most disagreeable incident in the use of the insoluble salts. Another objection is the accumulation of mercury which may take place after the injection of insoluble—oil preparations and large quantities may suddenly be absorbed into the circulation. Recently at the University of California clinic a patient with stubborn lues exemplified this possibility. He had received about fifty injections of bichloride, nearly one hundred of sozoiodolate and while under treatment he developed a rebellious glossitis. He was then given two calomel injections of one grain each, one week apart, and ten days after the last injections he felt sick and became severely salivated.

The only serious objection to the soluble salts is that they must be given more frequently on account of being rapidly absorbed into the circulation. Still it is seldom that it will be found necessary to give the injections oftener than twice a week, and occasionally once a week will be sufficient. For the past four years at the clinic injections have been used in nearly all severe cases. Several hundred injections of the bichloride, biniodide, sozoiodolate and benzoate have been given as well as many of grey oil and calomel. The latter have only been used in stubborn luetic conditions of the mouth. No disagreeable symptoms from soluble salts have been observed. Before classifying the advantages of the different methods, I'll briefly mention the hobbies of some of the European clinicians relating to mercurial injections:

In England the favorite treatment for many years has been tablets of hydrarg. cum creta. Jonathan Hutchinson and Radcliffe Crocker both use this method more than any other. Mercurial injections are very seldom used. At the clinics in Paris the green iodide of mercury in pill form is still a favorite remedy and is usually given in the form of intermittent medication as advised by Fournier. In the hospitals, syphilitic patients are mainly treated by means of injections, a great variety of preparations being used; but there seems to be a preference for the soluble salts, as being less dangerous, and as effective as the insoluble preparations.

In Italy injections and inunctions are almost exclusively used. The sublimate and calomel are the favorite salts.

In Germany and Austria the most popular way of treating syphilis is by inunctions with mercurial ointment and in many places mercury is only used when symptoms of syphilis are manifest. The injection treatment is also largely employed—a great number of preparations are used, each clinic having some favorite one. The salicylate, the sublimate and the grey oil are most generally used. Internal treatment by pills and mixtures is not looked on with favor.

At St. Petersburg, patients in hospitals are largely treated by means of inunctions and those attending clinics frequently receive injections of the insoluble salicylate.

Advantages of Injections Over Internal Medication. The action is rapid and the exact dose can be esti-

*Read before California Academy of Medicine November 28, 1905

mated. There is practically no danger of salivation or diarrhea and digestion is not disturbed.

Many lesions which resist internal medication will clear up under injections.

Advantages of Mercury by the Mouth Over Injections. The medicine can be given in pill form and this can be carried in one's pocket and taken without trouble. For routine treatment when no active lesions are present the results are apparently as good as by injections. There is less likelihood of losing the patient on account of the fear which some have of the pain following the injections.

The Disadvantages of Injections. At times they are quite painful.

The necessity of visiting the physician at times when it is not required by the condition of the patient.

The Advantages of Soluble Salts Over the Insoluble. Pain is not so severe or lasting.

They can be given in aqueous solutions.

The results are as good as from the insoluble salts.

The dose can be regulated better, as absorption is more rapid and there is no accumulation of the drug.

The Advantages of Insoluble Salts Over the Soluble.

It is not necessary to give the injections so frequently.

Lesions of the mouth and nervous system clear up more rapidly.

The Disadvantages of Insoluble Preparations. The severe pains, which frequently last a long time, occasionally as long as a week.

The tenderness of the inflammatory lump which frequently remains after the injection.

They must be given in oil, hence the danger from embolism.

The dangers from salivation and other symptoms of mercurialism from accumulation of the salt at the points of injection.

Inunctions have the draw-back of being dirty, of sometimes causing cutaneous eruptions, and the dose cannot be regulated so carefully as by injections of soluble salts.

Nevertheless inunctions seem to be the best form of treatment for severe cases in children and in nervous women, and it is good treatment whenever mercury is indicated.

Intra-Venous Injections are of service in those cases where it is necessary to obtain a rapid action, but in which it is necessary to avoid all pain. They are sometimes dangerous, and when the mercury happens to get outside the vein the pain is excruciating.

Conclusions. When it is necessary to get the patient rapidly under the influence of mercury, when eye or nerve symptoms are present, when lesions resist the usual treatment, and when pills cannot be taken, then injections should be used.

For treating patients who show no active lesions, mercury given by the mouth in pill form is most convenient and is thoroughly satisfactory. When injections are given it matters very little which of the soluble salts already mentioned are used. If given properly they act well. If it is necessary to give an insoluble salt, grey oil and the salicylate will be found less painful than calomel.

Dr. Pottenger's Name Misused.

To the Editor of the STATE JOURNAL: I know that you and the readers of the JOURNAL are acquainted with the methods used in distributing samples of pharmaceutical and laboratory preparations, so I will not dilate upon these methods, but simply wish to call attention to one specific case.

A short time ago a representative of the Merrell-Hall Company of Chicago called at my office in reference to Dr. Shiley's combined serums. As I was ready to leave my office I gave him about two minutes of my time; made him no promises whatever regarding the use of the samples which he had previously left for me.

After looking into the remedy I could see absolutely no theoretical grounds for its existence, and consequently did not care to use it.

It has come to me from several sources; in fact, I have received letters from several physicians in the state, asking me if I were using it and stating that the representative was using my name as being one of those who was putting it to test. I wish to state that this is absolutely untrue. I have not used this remedy, and until I can at least see some excuse for its existence, I shall not try it.

Yours very truly,

F. M. POTTENGER.

Los Angeles, Cal., January 10, 1906.

U. S. Pharmacopeial Business Affairs.

The Board of Trustees met at Pittsburg, December 2d. Members J. H. Beal, A. E. Ebert, J. P. Remington, S. A. D. Sheppard and H. M. Whelpley were present. Horatio C. Wood was absent. Secretary Murray Galt Motter has issued to the members the official minutes of the proceedings. A resume of the work of the Committee of Revision to be published in convenient form was discussed but no definite action taken by the trustees.

An edition of the Pharmacopeia in the Spanish language will, no doubt, be one result of the recent meeting. A committee consisting of Professor J. P. Remington, Chairman of the Committee of Revision, Charles E. Dohme, Chairman, Board of Trustees, and Dr. H. C. Wood, President U. S. P. Convention, was appointed to make the preliminary arrangements for an edition of 2000 copies. The discussion developed the fact that great interest is being taken in the proposition.

Dr. Walter Wyman, Surgeon General of the Marine Hospital and Public Health Service, was tendered a special vote of thanks for the publication of Bulletin No. 23 entitled, "Changes in the Pharmacopeia of the U. S. of A., Eighth Revision." Also, for the bulletin on Standardization of Diphtheria Antitoxins. A vote of thanks was also tendered Dr. Reid Hunt and Dr. Murray Galt Motter, of the Service, for their work on Bulletin No. 23.

With the view of bringing the Pharmacopeia to the direct attention of medical students, it was decided to present the professors of materia medica in the medical colleges with complimentary copies of the Pharmacopeia. The recipients of such copies will be requested to call the students' special attention to the purpose of the Pharmacopeia and the nature of official remedies.

The extent of additional honoraria to members of the committee of revision was considered at length, but action postponed until the next meeting of the board.

Several applications from publishers who desire to use portions of the text of the U. S. P. were discussed and the rate of compensation decided upon.

The board adjourned to meet at the new Willard Hotel, Washington, D. C., January 20, 1906.

The Pittsburg College of Pharmacy tendered the Board of Trustees an informal dinner.

HENRY M. WHELPLEY, Secretary,
U. S. Pharmacopeial Convention.

GEORGE CHISMORE, M. D.

George Chismore, M. D., died at his home in San Francisco on the 11th day of January, 1906. Doctor Chismore was born in Litchfield, New York, on the 30th day of January, 1840, and he lacked but a few days of being 66 years of age. In the volume of the Transactions of the Medical Society of the State of California for the year 1900 is a sketch of his life, he being then the president of the society, and it is hardly necessary to repeat here the story, but the varied character of his experiences is to be noted, for he was on a New Bedford whaler, was for a short time a miner, studied and practiced dentistry, and while doing the latter, studied medicine, and later at-



Your Truly
Dr. Chismore

tended medical lectures. Before he graduated, however, he served in official medical capacities for the Western Union Telegraph Company and the United States Army, and leaving the latter, took his degree in medicine from the Medical Department of the University of the Pacific in 1873.

Doctor Chismore has related that as a boy he voluntarily nursed an old man who lived in a little cottage near his home until the sick man died, and has said that his interest in medicine began then. The taking of his degree, which he did not do until after he had been officially practicing for seven or eight years, was important as a necessary step to legal practicing, but was in other ways a minor matter. He was eminently one of the men who did not learn all his medicine in a medical school; he learned many facts there, beyond doubt, but they were parts of an armamentarium, the major portions of which were an intense sympathy, a great power of observation, and a rapidity of reasoning and accuracy of judgment which made many of his diagnoses seem almost matters of intuition. Nor did this faculty stop here. His therapeutic measures were selected by the same processes, and yet with the most painstaking care, for he believed and preached that the duty of the physician was to make his patients well, and that the profit to the sick man was little or naught unless this goal was attained, in part at least. This was the key-note of his professional work, his endeavor to make the sick better or well. It will not be believed by those who knew him, it must not be thought by those who did not, that the scientific side of medicine was slighted. His work, looked at from the strictest scientific view point, will stand the closest scrutiny, and this is especially true of his large amount of original work, and is practically true of his errors.

The original work he did was in the field of genito-urinary surgery, to which field he in great measure restricted himself after eleven years of general practice in San Francisco. His modifications of lithola-

paxy, actually reversing many of the processes of the original Bigelow operation, as in forcing the last elusive fragment to seek the lithotrite instead of seeking for it with the instrument, make the operation practically a new one, and it is done with instruments of his own design, on original lines and of the strictest simplicity. Leading and teaching the profession in this, he has not hesitated in other points, to oppose with equal earnestness the prevailing opinions when his judgment or experiences failed to approve them. He objected strongly to the common practice of washing out the bladder, to the catheterization of the ureters, and the use of strong injections in the deep urethra. He objected, too, in no uncertain terms, and backed his objection by the citation of personal cases, to surgical intervention in cases of tuberculosis of the genito-urinary tract, and it must be considered that this objection was positive, not negative work; that the expectant treatment advocated had a definite object, which was to be attained by certain lines of action.

Apart from his professional work his life was a complex one, for it touched the lives of many and diverse people in many and varying ways, and yet, after all is said, always in one way. In the Bohemian Club, of which he was twice president, in his social life outside the club, in his charities, which were more than even his intimate friends probably knew, in his simply going about the city's streets, he always attracted a definite love from his fellow men; wholly distinct from mere gratitude, not necessarily based on intimate acquaintance, often coming from those who did not agree with him, but offered by all who knew him, because there was something in him which called it forth. It was a response to the manly sweetness of a character which we will certainly wait long to see duplicated, but, which having known, we can never forget; nor ever wholly lose the effect of its influence.

UNDRAWN POULTRY AND FISH.*

By FRANKLIN G. FAY, M. D., Sacramento.

THE principal reason for introducing this subject for your consideration is the fact that toxicosis, resulting from partially decomposed foods, is so frequently encountered throughout the United States by the medical profession.

This fact being accepted, it seems proper to endeavor to find the causes and remedy the evil.

One cause may possibly be found in the manner in which undrawn poultry and fish are frequently placed on the market.

It is the general custom in the United States to dress the fowls by removing the feathers only, the neck being dislocated and the blood allowed to congeal in the loose tissues surrounding the neck and head, although some bleed the fowl through the mouth, and thus secure drainage without external wounds. They are hung up by the legs, the neck broken, or bled in the way mentioned, and then "dry picked," by which is meant that the feathers are all plucked before death has produced contraction of the follicles surrounding the insertion of the feathers, and thus rendering this operation difficult. The large packers precede the killing by starving the fowls for 24 hours before slaughtering, in order to allow the contents of the alimentary tract to pass, thus recognizing the fact that the presence of undigested food is undesirable, but the small dealers frequently take no such precaution, and on the contrary feed the birds liberally in order to increase plumpness, appearance and weight—attractive marketing being the important commercial factor.

The reports of the Canadian Commissioners of Agriculture show that the requirements of the English market demand that the intestines be removed, but opinions differ in the United States regarding this. The only authoritative statement I have been able to find is that of the conclusions from recent American experiments published 1901, Bulletin No. 144 under supervision of the Department of Agriculture:

Under precisely the same conditions of temperature and humidity, drawn fowls will keep from twenty to thirty days longer than those not drawn. The presence of undigested food and of excrementitious substances in animals which have been killed most certainly favors the tainting of the flesh and general decomposition. The viscera are the first parts to show putrescence, and allowing these to remain within the body cannot do otherwise than favor infection of the flesh with bacteria and ptomaines, even if osmosis does not actually carry putrid juices to contiguous tissues. Hunters know the value of drawing birds as soon as possible after they have been shot in order to keep them fresh and sweet and to prevent their having a strong intestinal flavor. That the opening of the body of an animal and exposing the internal surface to the air may have some influence of itself in hastening putrefaction is admitted, but when the process of drawing is properly conducted this secondary objection to its immediate performance may be entirely set aside. Absolute cleanliness should be maintained throughout the operation, and if the entrails are torn and their contents allowed to come in contact with the flesh of the animal, its interior should be at once washed out with clean cold water, and afterwards with a solution of common salt and the carcass hung up until thoroughly dry.

In an address entitled "Toxicosis Resulting from Modern Cold Storage Methods," by M. Cavana, M. D., Oneida, N. Y., and read at the 14th Annual Meeting of the N. Y. and New England Association of Railway Surgeons, held at the Academy of Medicine, N. Y. City, Nov. 17-18, 1904, there were many facts presented, in part as follows:

It is a well established truth that decomposition of organic matter begins the instant that such matter is deprived of life, and that all varieties of decomposing matter contain, to a greater or less degree, chemical and bacterial poison, and that the more advanced the stages of decomposition the more active the qualities of such poisons. In cold atmospheres the process of decomposition is of course much slower than in ordinary temperatures, but the process is not fully suspended even by thorough freezing. The great multitudes of sufferers from diges-

tive disorders are victims of toxicosis, or ptomaine poison. Stomach disturbance after eating, colic, nausea, headache, cholera-morbus, and most of the attacks of diarrhea and dysentery are among the conditions traceable to this cause.

In certain experiences of the writer the toxicosis was of such poisonous quality as to dangerously paralyze the nerve governing the action of the digestive tract, and in each fatal case death was preceded by heart paralysis.

Several examples of fatal poisoning from food ptomaines are recorded in detail to prove the seriousness of the present food situation, and the urgent need for an early remedy.

Poultry is bought and sold by weight, and generally commands a price from 12 cents per pound upwards (now quoted at 30 cents per pound in California). Poultry raisers as a rule precede the slaughtering of their marketable stock by a liberal cereal feeding, which fact accounts for the full crops generally found by our domestics while preparing their poultry for cooking. The manifest object of this feeding is to increase the weight of the stock, and the corn or other grain at two cents a pound, thus fed before slaughtering proves a six hundred per cent investment to the raiser of the stock.

After slaughter the poultry carcasses are denuded of their feathers and shipped to the wholesale dealers, without further dressing. The head and feet, as well as the full crop of partially digested grain, and the intestinal tract with its store of filthy and poisonous excrementitious matter, all combine to make valuable weight, and are therefore kept intact. Most of the modern wholesalers are proprietors of cold storage plants, and their stocks are the sources of supply for a great majority of the retail marketmen of our cities.

Imagine the probabilities connected with the Thanksgiving turkey and the spring chicken (which is quoted upon the menu of our high class hotels and restaurants every day of the year), their previous storing in a cold, but unfrozen state for months, or even years; their craws stuffed with partially digested food in a state of continuous fermentation during this long period; their lung tissues and other delicate internal structures broken down by partial or complete decomposition; their digestive tracts filled with excrementitious matter in a state of solubility; their extensive anatomical arrangement for absorption through the numerous vessels and ducts, which extend from the intestinal lining to various portions of the body of the fowl, rendering the absorption of the unclean and poisonous intestinal tract probable rather than possible; and the final crowning act of the wholesaler, that of saturating the partially mummified specimen in fresh water before marketing, thus rendering the distribution of the ptomaines throughout the unclean conglomeration as thorough as could be accomplished by the most studied means.

The reports of our State Board of Health show eight thousand deaths from diarrhea in a single year. Without question a very large majority of those fatal cases were victims of food toxicosis. The laws of our land very properly provide for the most despotic quarantine of the Asiatic Cholera, the Bubonic plague and smallpox, but as yet not a hand has been raised in the interest of a movement against a situation which claims more victims each year than the combined contagious diseases mentioned.

The writer is convinced that the hour for radical action in this all important field is long since past due, and that the medical profession of our proud nation is justly chargeable with inexcusable indifference, if not negligence, of its duty to humanity, by its delayed action in the matter.

Will the members of the New York and New England Association of Railway Surgeons each put forth his best efforts in the securing of such legislation in the several States comprising this organization, as will compel, by law, as thorough cleaning and preparation of poultry for storage and the market as is now practiced in the care of beef, pork and mutton before storing, and such periodical inspection of storage plants as will fully and completely stay the withering hand of exogenic toxicosis, and thus safeguard our people from the untimely dissolution which must follow the continued indifference toward this situation?

Many of the facts mentioned in regard to poultry are also true of the marketing of fish in California. The fish are frequently stored by wholesalers without any attempt at cleaning or dressing until ready for the retailer, when they are then drawn.

Perhaps fresh-water fish are more generally stored undrawn or round, as it is termed by the trade, than salt-water fish. If this be true the obvious reason would be that the contents of the intestines of salt-water fish are more apt to be composed of carrion or decayed animal matter than the fresh-water fish.

Did you ever know of catfish being marketed or stored in any other manner than with the head, intestines and even skin removed? Now why is this

* Read at the meeting of the California Public Health Association, San Francisco, October 28, 1905.

precaution used in the case of catfish and not with other kinds of fish. The dealers know that a catfish will spoil and the meat become so tainted by reason of the absorption of the contents of the intestines, as to be unsalable. Therefore they are usually killed (not allowed to die from suffocation as is often true with other kinds of fish) and completely cleaned before any contamination has occurred. What is true in regard to catfish, is probably true in regard to all other fish, perhaps in not so great a degree, but sufficient to show the possible danger, and make necessary some laws regulating this unwholesome practice. A great deal of Eastern poultry has been condemned in California by reason of its having been allowed to thaw during transit and refrozen on arrival. The removal from cold storage of such products should be regulated by a law compelling the immediate use by the consumers and not be permitted to be placed for sale in the hands of retailers who are not prepared to keep them in their previously frozen state. These retailers keep frozen poultry exposed for sale until soft, when if not sold they return them to the cold storage men for refreezing. This is particularly dangerous and Chief Chemist Wylie states that "it is highly important that when cold storage meats or products in general are to be consumed that they should not be removed from cold storage until they are ready for consumption. That there is the utmost danger of contamination and that for business as well as sanitary reasons there should be such an adjustment of withdrawals from cold storage as would immediately meet the demands for consumption and no more and that cold storage products should not be exposed to ordinary temperatures until the customer is ready to take them at once and use them."

He also states in a personal letter that this subject is now under consideration by the Bureau of Chemistry and that they hope soon to have some definite knowledge as the result of personal investigation. In the meantime the boards of health would be justified in condemning any poultry which suffered any deterioration in transit.

Resolutions condemning the use for human food of fish and poultry from which the viscera were not removed at the time of slaughter were passed unanimously by the National Conference of State and Provincial Boards of Health, Washington, D. C., the California State Board of Health and the Sacramento City Board of Health.

There is now before the Sacramento Board of Trustees an ordinance in accordance with the above resolutions, which we hope to have enacted. This legislation, as all other similar legislation in the past, is meeting with strenuous opposition on the part of the dealers, led by the large packers and cold storage men. If their immense interest in this matter is really in behalf of the public we should have no difficulty in making a satisfactory adjustment, but as yet I have found no producer and no consumer outside the trade who is opposed to legislation. The combined interests of capital and the middle men have succeeded in delaying legislation heretofore, but if the public be educated sufficiently as to the true merit in this movement, it must come through the medical profession—for the reason that the middle men are shrewd enough to look out for their own interests and have deluded the consumers in the belief that undrawn poultry and fish is not only equal, but in fact superior to that which is drawn.

Prophylactic surgery may be the surgery of the future; serum therapy and other therapy may narrow the operative field; but whatever course surgery may take, its direction will be one of advance, for it is traditional with and inherent in our art and our workers to press steadily forward to the end that the lives of men may be made longer and happier. This is our heritage.—Dr. C. A. Powers, Address, A. M. A.

SAN FRANCISCO SOCIETY OF EYE, EAR, NOSE AND THROAT SURGEONS.

The regular meeting of the society was held on Thursday, December 21, 1905, in the rooms of the San Francisco Polyclinic, the president, Dr. K. Pischel, in the chair. The program follows:

Dr. Cullen F. Welty read a paper on "The Indication of Surgical Interference in Laryngeal Tuberculosis." (Published later.)

Dr. Houston, discussing paper read by Dr. Welty: I do not recall ever having seen in San Francisco a case of primary tuberculosis of the larynx. My operative experience has been limited, and when employing it I have found my technic too insufficient to secure a perfect result. My conclusion would be that there are practically no cases of primary laryngeal tuberculosis here, and that it would be useless to operate in the presence of constant reinfection. During the past week I have had two cases illustrating this. One was a man with an ulceration of the right cord, and though no pulmonary lesion was apparent at the time, yet I am positive, from the enormous amount of sputum, teeming with the tuberculosis bacilli, that we shall find a pulmonary lesion with more careful search. The other patient had an extensive ulcer involving the right ventricular band and the arytenoid process. No pulmonary lesion had been found, but a radiograph showed enlarged bronchial glands, pointing probably to a pulmonary infection. I think that the cases suitable for operation are very few.

Dr. Merritt: In Vienna I saw many cases of laryngeal tuberculosis without apparent constitutional symptoms. They are treated there as a local affection.

In San Francisco we have few cases of primary tuberculosis of the throat. In the constitutional cases here the throat becomes affected very late in the disease, and then the patient is so far gone that by treating the throat he is afforded but little relief.

Dr. R. D. Cohn: I am somewhat conservative about operating in laryngeal tuberculosis, adhering to the principles laid down by Hajek. Theoretically Hajek divides the disease into three stages. In the first, with the exception of a circumscribed ulceration or infiltration, the larynx is healthy. In this stage, the only one in which we can hope for a permanent cure, the treatment consists in curettage for an infiltration, and cauterization with lactic acid in case an ulceration is present. In the second stage the larynx presents extensive infiltrations or ulcerations involving the greater part of the laryngeal ring. Here we can not hope for a complete elimination of the morbid tissue. Here the antiseptic treatment comes to the front to prevent secondary infections. In the final stage the treatment is purely symptomatic. In impending suffocation tracheotomy must, of course, be performed.

Dr. Philip: I have never operated on patients with this condition, because when they come to me it is evident that it is a secondary infection. I have had in my private practice ten cases. All patients but one died. That man had one lung entirely gone and part of the other. The laryngeal symptoms disappeared and the patient lived with the remaining portion of the other lung.

Dr. Welty, closing discussion: In regard to primary tuberculosis of the larynx, there is no doubt that such a condition does exist, as there are various authenticated cases on record, and I have seen a few myself.

The differential diagnosis in this particular form of tuberculosis is exceedingly difficult because the lesion consists in some cases of slight degrees of thickenings. The same condition may come from various affections, and in all cases the process of elimination is very difficult. It is quite another picture when the disease has progressed, or there is

well-defined tuberculosis elsewhere. Many of the so-called cases of primary affections that have been operated, diagnosis verified by the microscopical findings, develop tuberculosis of the lungs in the course of a few years. No doubt this lung condition was present at the time of operation and they can not be considered as belonging to this class.

The more you study this classification I have made of tuberculosis of the larynx, the easier it is to arrive at something definite.

We do find cases of tuberculosis of the larynx without laryngeal symptoms, and it is a noteworthy fact that some of these patients will begin to have trouble as soon as treatment is begun, so it is recommended that you let them alone. The active laryngeal cases are operated upon because of their distressing symptoms. Patients can be made much more comfortable, and we should not hesitate to relieve them. One of the cases that I reported illustrates this very beautifully.

When the whole of the larynx is involved in the tubercular process it will of necessity fall into the group where we operate for the relief of the laryngeal symptoms, and probably the preliminary operation would be a tracheotomy. You certainly will not attempt to operate with any chance of effecting a cure.

I have seen tubercular ulcerations of the true chords operated on very successfully by the use of the cautery. In summing up the situation we find that primary tuberculosis is so rare or so difficult of diagnosis that very few cases are operated.

Second, that cases without laryngeal symptoms should be left alone.

Third, that the active cases are operated simply for the relief of distressing symptoms.

Fourth, that the passive cases are the ones of natural selection for operation.

The president suggested that the society should discuss the advisability of total extirpation of the tonsils, saying: "Lately, at different meetings, the question of tonsil operations was discussed and many advocate the excision of every particle of tonsil. I, myself, I must confess, have not quite made up my mind about it. What is a normal tonsil? When should we remove them and how much of them?"

Dr. Houston said that for the past year he had given up the use of the guillotine, the Myle's punch, etc., and limited himself to total extirpation of the gland with the cold wire snare. He finds this method efficient in all cases. He operates under chloroform anesthesia, with the patient in the reclining position. The tongue is held by an assistant. The adhesions to the pillars are torn loose with a long blunt hook and scissors, then the tonsil is drawn to the median line with a Knight's nasal forceps, and with the Farlow snare, cut through, taking about four minutes for this latter procedure. The hemorrhage is usually brisk at the time. The doctor reported three cases of post operative hemorrhages—one on the fourth, one on the seventh and one on the eighth day.

Dr. Cohn said that he could not thoroughly agree with Dr. Houston, and thought that the radical enucleation should be employed only in those cases in which the tonsils cannot be removed by any of the tonsillotomes, tonsil punches, etc. He considers that in the ordinary cases of hypertrophy only the portion projecting above the pillars need be removed, as the remaining stump shrinks, leaving a smooth cryptless surface. Continuing he said that the removal usually requires one or two minutes, while the enucleation, as described by Dr. Houston, requires three-quarters of an hour, confinement in bed for a number of days, is frequently attended with severe hemorrhage, leaves the throat in a very much inflamed state and serves no purpose not answered by the simple removal.

Dr. Merritt said that after operation in many of these cases there is a bit sticking out which cannot

be removed with impunity for fear of taking too much. In hard and fibrous tonsils he was afraid of after hemorrhage.

Dr. Philip does not send his tonsil patients to the hospital. He operates on the patient, where the crypts are filled with material, by removal piece by piece, the patient not losing any time from his work.

Dr. Welty divides the tonsil operations into two classes dependent upon the pathological condition. In the first class the tonsil is hypertrophied without involvement of the crypts and is not adherent to the pillars of the fauces. These tonsils can be thoroughly removed by the tonsillotomy. The second class included those cases adherent to the pillars, and we operate to eliminate the crypts. Dr. Welty uses long-handled curved scissors, tonsillar forceps, blunt and sharp dissectors and a large strabismus hook.

W. SCOTT FRANKLIN, Secretary.

Gonorrhea and Enlarged Prostate.

The statements of patients are, of course, notoriously misleading; and yet it is generally conceded that fully 75 or 80 per cent of adult males have gonorrhea in early life, and that fully 60 per cent of these have posterior urethritis. Inasmuch as less than 20 per cent of those who pass their fifty-fifth year have prostatic hypertrophy, one certainly cannot infer any very direct connection between the two. To assume that the early gonorrhea produces the hypertrophic change of later life would be to assume something that proves too much. There are not enough hypertrophied prostates to go around.—Keyes, in *Journal A. M. A.*

Insanity and Tuberculosis.

The study of insanity in its relation to tuberculosis is exciting the attention of the thoughtful alienists of all lands. While it is not directly related to the supreme and higher question in forensic medicine, of how far and to what extent preventive legislation can be relied upon to arrest and avert the ravages of this dreadful scourge of the human race, it is forced into public recognition, because the insane being nearly all dependent, are the wards of the state; and the approaching congress at St. Louis is regarded by the management as a suitable occasion to call upon the leading alienists and neurologists of the world for a full discussion of this subject, with a view and to the end that the contributions can all be presented before one of the sections of the congress without at all interfering in its greater work on preventive legislation, and the various themes which are now under consideration by the committee having charge of the formation of the programme.—Clark Bell, Esq.

XVth International Congress of Medicine—(Lisbon, 19-26 April, 1906).

The 5th number of the *Journal of the XVth International Congress of Medicine* is published. It is dated from the 20th of February and contains interesting news. The number of the reports that are assured in the different sections gets up 205 till now, and they are signed by the highest names of the medical sciences. The programme of the Lectures is also very advanced: Sir Patrick Manson, prof. Brissaud, drs. José Esquerdo and P. Anser, and prof. Azevedo Sodré are inscribed already and the Committee of the Congress expects the inscription of other scientists that are invited. At last, the organisation of the national Committees is nearly complete in the several countries. (Stc.)

COUNTY SOCIETIES.

Alameda County Society.

The Alameda County Society held its regular monthly meeting on November 21st. There was a large attendance of members who listened with the greatest interest to a discussion by Dr. Martin H. Fischer of some of the recent work on the physiology of digestion, dealing chiefly with the experimental work of Powlow. Dr. Fischer described the operation for the formation of a Powlow pouch, in which a portion of the stomach is so segregated from the main cavity as to permit a study of its secretions, which remain uncontaminated by food during gastric digestion. He also explained the method of sham feeding, in which the animal is allowed to eat, but the food escapes through an opening in the neck instead of passing into the stomach. By a combination of these methods, it has been found that the gastric juice varies in amount and in character depending upon the sort of food eaten, and also varies at different stages of digestion; that psychic influences stimulate the stomach to secrete about fifty per cent of the gastric juice, as by the mere sight, smell, or taste of food; and that the stimuli reach the stomach by way of the vagus nerves, no secretion occurring if the vagi be cut. Articles of diet having no food value themselves may highly stimulate secretion, as in the case of meat extracts, soups, bitters, etc., so these have a certain sphere of usefulness in the meal. It is important also that food should be palatable and agreeable to the eye. Psychic influences, as grief, anger, etc., may also inhibit secretion. Milk, meat, and bread stuffs were found to require increasing amounts of gastric juice for their digestion, the ratio being about 11 to 16 to 44. Milk is thus the most easily digested of all foods.

The pancreatic secretions were also studied by Powlow, the juice being collected by cutting the duct and allowing the fluid to escape into a receptacle. He found a slight constant secretion, greatly increased on the entrance of food into the stomach. The secretion varied greatly in amount with different sorts of food, as did also the different ferments contained in it. The nervous exciting and inhibiting influences were like those referred to in connection with the stomach. It would seem that the gland cells are stimulated to secretion by the presence of the so-called pancreatic secretion. This is a substance formed in the duodenal mucosa when the acid stomach contents escape through the pylorus, and it is carried to the pancreas by way of the blood stream, and also to the liver, where it has to do with stimulating the flow of bile.

The discussion of the paper chiefly took the form of questions, after which all present proceeded to the practical application of the subject, the committee on program having thoughtfully provided a supply of sandwiches and beer upon which the principles enunciated by the speaker could be immediately tested.

T. C. McCLEAVE.

Orange County.

The Orange County Medical Association met in regular session Tuesday evening, January 2d. The attendance was good and the interest manifested was more than usual.

The Board of Censors submitted a report requesting the members who are doing contract lodge practice to discontinue doing so. This, it was assured will be willingly complied with, as all the members appear willing to conform to the by-laws of the Society.

Our library was enriched by a copy of Haines' and Peterson's work on "Nervous and Mental Diseases,"

being a holiday remembrance from Dr. R. A. Cushman of Talmage.

Dr. J. L. Dryer then read the paper of the evening, the subject being, "The Home Care and Treatment of Consumption." This was one of the most thorough papers on the subject ever presented to the Society. Dr. Dryer showed in his usual direct way that he was fully conversant with his subject. He advocates constant supervision of the physician "over the home life of the patient," or rather, "tent life" for that is the life he recommends. He is also a strong advocate of the serum treatment, but sunlight, fresh air, perfect hygiene, and nutritious feeding are his principal dependence. The discussion lasted almost three hours and it was near midnight when the Society adjourned.

H. S. GORDON, Secretary.

San Bernardino County.

The San Bernardino County Medical Society met for its annual session with the president, Dr. Hoell Tyler of Redlands in the chair, Dr. J. M. Hurley, secretary.

A good attendance of the members of the Society was present, together with a number of leading physicians from Los Angeles, Riverside, Pomona, and Claremont; making a total of sixty in attendance.

The Medical Director of the Arrowhead Hot Springs, Dr. G. W. Tape, gave a terse and acceptable address of welcome, which was responded to on behalf of the Society by Dr. Hoell Tyler in a few well-chosen words.

Minutes of the last meeting having been read and approved, the Board of Censors reported favorably upon the application for membership of Dr. S. Y. Wynne of Redlands, and Dr. Geo. K. Abbott of Loma Linda, both of whom were unanimously elected.

The annual report of the year was then read, and showed that the past year had been the most prosperous one of the Society, its membership having increased from thirteen at the beginning of the year to forty-four at its close, in good standing, and with six delinquents. All bills were paid, and a surplus in the treasury. A vote of thanks was tendered the secretary for his energetic administration.

A nominating committee consisting of Drs. Payton and Gibbs was appointed by the chair, who reported the following list of candidates: For president, Dr. Thos. M. Blythe of Redlands; for first vice-president, Dr. Jos. A. Champion of Colton; for second vice-president, Dr. Chas. E. Ide of Redlands; for secretary, Dr. D. C. Strong of San Bernardino; for treasurer, Dr. Jno. H. Evans of Highlands.

The entire list was ratified by the Association, and duly elected officers for the ensuing year. The Auditing Committee reported favorably upon all outstanding bills, and they were ordered paid.

The first paper was read by Dr. Frank W. Thomas of Claremont, upon the "Importance of a Proper Diet in the Treatment of Disease." He took the ground that a careful and intelligent study of dietetics was the key-note of the medicine of the future. Drugs while both useful and necessary in emergencies, could not produce the permanent alterations of nutrition which could be obtained by an intelligent selection of foods. That in nearly all of our chronic diseases such as gout, rheumatism, nephritis, and diabetes, an intelligent regulation of the diet and habits of the patient was far the most potent means of arresting the progress of the disease.

He referred in high terms of appreciation to the admirable paper of Dr. Frank Billings before the Portland meeting of the American Medical Association, and said that this and the interesting discussion which followed it, were typical of the high rank which diet was coming to assume in the mind of the profession.

He referred to the brilliant researches of Powlow upon the different strengths of digestive juices called out by different classes of food, as illustrations both of the exquisite adjustments of the alimentary canal to its work, and also of the changes which can be produced by an intelligent selection of different classes of foodstuffs.

The discussion was opened by Dr. Woods Hutchinson of the Arrowhead, who cordially endorsed the advanced and progressive positions taken in the paper. In his opinion a new era was opening up in this most important realm, and some of the old landmarks were going down to oblivion. Among them was the old three-fold classification of foods of Liebig and Voit, into the flesh-formers or proteids, the fat-formers and the heat producers. It was important to recognize that any class of food can serve any of these functions, and that all food taken into the body was broken down into its simplest molecules, and built up again into the tissues, giving out energy in the process.

Secondly, it was doubtful whether the food elements which can be built up into body tissue pass through the form of peptone. Certainly a considerable percentage of the peptones formed in the alimentary canal are on their way to the formation of creatin, creatinin, and finally other waste products. Therefore, the administration of pre-digested foods, peptones, and peptonoids, is of exceedingly doubtful value, nor was the giving of pepsin itself of much greater utility, inasmuch as all gastric analyses show abundance of this ferment present in all cases where the acidity was anywhere near normal. The researches of Powlow have shown as instincts told us long ago, that an attractive taste upon the part of food was absolutely necessary to stimulate the flow of active and effective gastric juice. Food that did not taste nice was just as definitely deficient a food as that which is defective in nutritive value.

Dr. Geo. K. Abbott expressed his appreciation of Dr. Thomas' paper, and commented upon the delicacy and accuracy of the modern tests of digestive power, and the importance of finding out whether lactose was present in the gastric juice before putting the patient on a milk diet.

Dr. Geo. L. Cole, of Los Angeles, said that while he thoroughly agreed with Dr. Thomas as to the great importance of dietetics, he had no sympathy with the therapeutic nihilism which decried all use of drugs. The man who had no confidence in drugs should resign from the profession. He agreed with Dr. Hutchinson that the patient should be encouraged to take a wide variety of foods, and that Nature knew how to take care of an excess better than she did a deficiency. He believed that pepsin and other digestives were sometimes useful in assisting patients who either could not, or imagined they could not digest certain foods. Contrary to popular, even the prevalent professional opinion, he believed with Dr. Hutchinson that most of our patients were under fed rather than over fed.

Dr. F. C. E. Mattison of Pasadena was then called upon to tell what he took for his 225 lbs. He blushing declined to reveal the secret of his physical prosperity, but stated that the more he studied the diet of his patients the less frequently he found the necessity of giving medicine in the chronic disturbances of nutrition: that he believed in going into considerable detail with his patient as to what, and how much they were eating, making them give him as nearly as possible a complete list of the articles they had eaten during the last six or eight meals, and that he frequently found in this the secret of at least part of their condition. He agreed with Dr. Cole and Dr. Hutchinson that more of our patients were under fed than over fed, especially among women and children, and that many who had attempted to regulate their diet had done so

at the expense of some of the elements of which they were most in need, particularly in the line of meats and fats.

Dr. Norman Bridge of Los Angeles, sounded a note of warning against the too strictly regulated diet. In diabetes for instance, the tissues were in a state of intense carbo-hydrate hunger and their temporary deprivation of carbo-hydrate might re-educate them to the combustion of sugars. An absolute starch-free diet was practically impossible to obtain, and when approximately reached would ultimately injure the general nutrition if long persisted in.

He agreed with previous speakers that a wide range of foodstuffs was absolutely necessary to health, and that patients should be encouraged to increase their food-range rather than to diminish it. He agreed with Dr. Cole and Dr. Hutchinson that the majority of our patients were under fed rather than over fed, citing the well-known fact, that all consumptives were in this condition. That the senses of taste and smell were necessary to aid digestion, and produce a flow of Powlow appetite juice, and attractive cooking was of great importance in dietetics. Our ideas of digestibility of a food were altogether too exclusively based on the length of time it took to leave the stomach, forgetting that the *real* digestion was in the small intestine, and that so long as the stomach can empty itself in a reasonable length of time, and pass it on to the small intestine, a patient's nutrition can be well kept up for an indefinite period.

Dr. Jno. Haynes of Los Angeles, took issue with Dr. Hutchinson and Dr. Bridge as to the prevalence of over feeding. In his experience a large majority of our patients, particularly of successful business men over the age of forty eat too much, and a great deal too much, and suffer severely in consequence. He believed that the mere thought of savory food was sufficient sometimes to start a flow of gastric juice, and laughingly suggested, that had it not savored too much of Christian Science it might be well to instruct our patients to think of fried oysters and quail on toast regularly one-half hour or so before each meal.

Dr. Lemoyne Wills of Los Angeles, believed that we should encourage our patients to depend less upon the artificial flavors of the cook, and to relish their food in its natural state. That the use of milk, raw eggs, nuts, fresh vegetables, form a valuable stimulus to the jaded appetite, and call into play both the muscles of mastication, and the digestive secretions of the stomach and pancreas in a way that stewed, baked and boiled food do not. He believed that animals living in the open, and eating food in its natural state, were more vigorous and less subject to disease than man.

Dr. C. C. Browning thought that full and rich diet range was necessary in a great majority of cases, both to sustain nutrition, also to provide a sufficient amount of waste material to properly stimulate the colon. This was well understood by farmers and stockmen who knew that horses and cattle fed on grain alone would rapidly lose their appetite and become diseased.

He also called attention to the fact that it was necessary to not only ingest an abundance of food, but to create an appetite for it, and one of the best ways in which this can be done, was living in the open air with exercise if possible, but where fever exists, as in the case of the consumptive, without it. He thought that one of the great advantages of the open-air treatment of consumptives lay in the appetite which it gave, and the large amounts of food which it enables the patient to consume without becoming bilious. Get our patients out of the delusion that drafts are harmful. Teach them to sleep every night with a current of fresh air blowing

across the face, and half their dyspepsia would disappear.

Dr. C. Van Zwalenburg of Riverside, read a paper entitled "Shall We Open the Abdomen in the Presence of Acute Inflammation of the Peritoneum?" He held that an intelligent conservatism in this class of cases was productive of best results. He stated that during his practice in Riverside he had treated thirty-five cases of appendicitis without operation, all of which recovered. He had also found that many cases of peritonitis, from various sources, including tuberculosis, had recovered by a policy of letting alone. He had found great satisfaction in the Ochsner method of treatment in appendicitis.

Dr. A. W. Lobingier's paper on the subject of "The Conservative Surgery of the Tubes and Ovaries" was illustrated by numerous drawings and diagrams. He referred to stricture of the isthmus of the tubes, and methods of operating for this condition. His experience with grafting of the ovary had not up to the present time been favorable. He deprecated radical and unnecessary interference with organs, or inflammatory adhesions, and particularly emphasized the importance of limiting the handling and exposure of the viscera to the smallest extent possible, and the avoidance of poisonous or irritating antiseptics and flushes in the peritoneal cavity. He described several original procedures for reducing interference and exposure to a minimum, at the same time providing for free escape of pus and serum.

Dr. C. D. Lockwood of Los Angeles, opened the discussion of both papers by calling attention to the necessity of perfect drainage in abdominal surgery. He agreed with Dr. Lobingier that the pendulum of surgery is swinging back again in the direction of conservatism, and the reduction of removal and interference to only what is absolutely necessary.

Dr. Lemoyne Wills referred to the admirable original work done by the late Dr. J. McCone of Los Angeles, since deceased, in experimental transplantation of the ovary, stating that his success in this operation had been really remarkable, anticipating the results of European experimenters, and thought that his early death had been a serious loss to the cause of Medical Science.

Dr. Beardsley agreed with Dr. Van Zwalenburg that there had been entirely too much rash and unnecessary surgery of the abdomen. He had had most satisfactory experience in a number of cases of appendicitis with the Ochsner, or starvation method of treatment. He also spoke highly of Murphy's system of drainage of the peritoneum of making an opening only sufficiently large to admit the drainage tube, and closing it up close around it.

Dr. D. C. Strong of San Bernardino, thought that while the Ochsner treatment was excellent in its place, that it was being used in an unintelligent manner to a dangerous degree as a substitute for operation in appendicitis. This he was sure was not Dr. Ochsner's intention or method, as it was only used in cases seen forty-eight hours or more after commencement of the attack, or such as were from various causes unsuitable for immediate operation.

Dr. W. W. Beckett of Los Angeles, heartily endorsed Dr. Strong's remarks, and believed that in early cases the ideal procedure was to open at once, reserving the Ochsner method for cases seen too late for operation.

The discussion was then closed by Dr. Van Zwalenburg and Dr. Lobingier, replying to questions as to their methods and experiences.

The meeting was then adjourned until 8 P. M., when the Society re-assembled in the great dining-room as guests of the Arrowhead and discussed an excellent menu.

J. M. HURLEY, Secretary.

San Joaquin County.

The regular monthly meeting of the San Joaquin County Medical Society was held in the Physicians' Building in the offices of Dr. J. P. Hull, January 5, 1906; President Knight in the chair. Members present: Drs. J. P. Hull, Minerva Goodman, Taylor, H. E. Sanderson, A. W. Hoisholt, C. R. Harry, B. F. Surryhne, R. B. Knight, H. W. Taggart, W. M. S. Beede and Barton J. Powell.

The following officers and committees were elected to serve for the ensuing year: President, Dr. C. R. Harry; first vice-president, Dr. W. J. Young; second vice-president, Dr. J. P. Hull; secretary and treasurer, Dr. B. J. Powell; delegates to State Society, Drs. Beede and Powell; alternates, Drs. Arthur and Hull. Committee on finance: Drs. W. W. Fitzgerald, F. R. Clarke, C. R. Harry; committee on admission: Drs. M. Goodman, R. R. Hammond, A. W. Hoisholt, R. B. Knight, S. W. R. Langdon; committee on ethics: Drs. H. E. Sanderson, J. D. Young, H. E. Southworth, H. W. Taggart, J. D. Dameron; trustees: Drs. E. Harbert, S. E. Latta, D. F. Ray.

The members discussed the advisability of electing to membership in the local society members of the Homeopathic and Eclectic Schools. The members present were inclined to accept the views as presented by Dr. Philip Mills Jones in his recent lecture in this city, but delayed positive action until after the state meeting in April. It was further decided that the by-laws be so amended that the offices of secretary and treasurer be combined.

Dr. J. P. Hull entertained the society with a paper entitled "A Case of Diphtheria Followed by Multiple Peripheral Neuritis." The discussion was opened by Dr. R. B. Knight. The patient, a young woman of eighteen, and apparently recovered from a severe attack of diphtheria when she was attacked with multiple peripheral neuritis. For thirty-four days the patient was treated with injections of pilo carpine, thirty grain doses of strychnia hypodermatically every four hours, and nutrition was maintained by rectal injections of peptonized milk. The patient is evidently enjoying good health at the present time. In this case antitoxin was not used until after five days when it was used liberally, the attending doctor being unable to procure a supply of antitoxin during this time.

After liberal discussion of the case, Dr. Hull banqueted the members present and the society adjourned to meet at the office of Dr. Minerva Goodman the last Friday in the month.

BARTON J. POWELL, Secretary.

Santa Clara County.

The meeting of the society, held December 20, 1905, in the parlors of the St. James Hotel, San Jose, opened at the hour of 7:15 P. M., and was attended by the following members: Drs. Harris, Frasse, Snow, Wagner, Fraser, Hall, Jordan, Burns, Trueman, Holbrook, Asay (presiding), and Osborne, secretary.

The following applications were received: Dr. William Simpson, San Jose; Dr. Howard Black, Palo Alto; Dr. Clella Duell Mosher, Palo Alto; Dr. Robert G. Reynolds, Palo Alto. The applications having been passed upon by the Committee on Admissions and reported back favorably, they were elected to membership.

Dr. Frasse presented for clinical consideration a lady who had been subjected over seven years ago to surgical operations for extirpation of cancerous growths. The parts were exposed and examined, showing absolute freedom from any signs of the former trouble and it was the opinion of the members that the operation had been a remarkably successful one.

Dr. Frasse also presented a patient with cretinism, previously before the society, to demonstrate the

results of treatment, during the past year. The case showed wonderful improvement and elicited most interesting discussion.

Reports from the society officers were received and filed.

Dr. Ethan H. Smith was granted, on his request, transfer credentials, having removed to San Francisco.

The next meeting of the society will be held Wednesday evening, January 17, 1906, at the parlors of the St. James Hotel, San Jose, at 7 P. M. This session will be a business session with no scientific program, in order that the business of the society that has been accumulating may be disposed of without further delay. Recommendations of the officers and committees relative to adoption of new Constitution and By-Laws, consideration of the proposed Fee Bill, and other important matters are to be discussed. An adjourned meeting will be held in Palo Alto on Saturday evening following, January 20, 1906, at which a rich literary program will be furnished. This meeting will be under special charge of the Palo Alto members. The meeting has been set for Saturday night, so that members from San Jose and vicinity may return on midnight train.

A. E. OSBORNE, Secretary.

Santa Barbara County.

At a regular meeting of the Santa Barbara County Medical Society, held December 18, 1905, the following resolution was unanimously adopted, viz:

Resolved, That a vote of thanks be extended by the Santa Barbara County Medical Society to the editors of *Collier's Weekly*, *Journal of the American Medical Association* and the *CALIFORNIA STATE JOURNAL OF MEDICINE*, for the bold and effective work in enlightening the public and profession on the Patent and Proprietary Medicine evil. The secretary to communicate a copy of this resolution to each.

* * *

The Santa Barbara County Medical Society held its annual meeting for the election of officers in the parlor of the Arlington Hotel, January 8, 1906. The meeting was called to order by the president, Dr. William H. Flint, the secretary, W. B. Cunnane, at his desk.

After the reading of the minutes of previous meeting the election of officers for the ensuing year was declared in order and balloting brought the following results: President, W. B. Cunnane; vice-president, David A. Conrad; secretary, William T. Barry; treasurer, C. S. Stoddard.

On motion a vote of thanks was extended the retiring officers.

Refreshments and adjournment followed.

WILLIAM T. BARRY, Secretary.

Sacramento Society for Medical Improvement.

Regular monthly meeting called to order by President Twitchell, December 19, 1905, twenty members present.

A communication from the Secretary of the State Society relative to the law forbidding advertising of "grossly improbable statements," was received and filed.

A set of resolutions offered by Dr. W. A. Briggs, relative to the "nostrum" evil was, in the absence of the author, laid over for action at the next meeting.

Dr. F. G. Fay of Sacramento, having made application for membership according to the form recommended for such applications by the A. M. A. and the Secretary reporting that Dr. Fay's credentials were satisfactory, i. e., a diploma from the Bennett College of Eclectic Medicine and Surgery issued March, 1886, and a California State license of October, 1886, a ballot was taken and Dr. Fay duly elected a member of this society.

Dr. S. E. Simmons reported, and showed photographs of a case of myxedema and presented before the society a male adult patient of powerful physique, 204 lbs. weight and gaining, for diagnostic commentary as he was apparently developing tuberculosis of the dorsal spine.

Drs. Wright and Wilder reported cases of pneumonia treated with massive doses of quinine.

A general discussion followed on the interpretation and enforcement of the quarantine regulations as applied to scarlet fever.

E. M. WILDER, Secretary.

COOPER SCIENCE CLUB.

(Concluded from page 27, Vol. IV, No. 1.)

"The Development and Comparative Anatomy of the Pectoral Muscles" was expounded by Dr. Blaisdell in his paper as follows:

In giving a resumé of the development of the pectoral muscles it is proper to commence with the development of the mesoderm. If a transverse section of the bilaminar blastoderm of a chick be studied, and this section should be made through the primitive streak, it will be observed that the cells at the side of the streak are undergoing proliferation, and if an examination of a section of a slightly older blastoderm be next viewed, it will be observed that these cells have increased and extended laterad between the ectoderm and entoderm, and besides, they will be found to be closely associated with the entoderm, as can be exhibited by a series of older embryos. The entodermal cells undoubtedly multiplying and being cast off by a process of delamination, the mesoderm, therefore, having a double origin, but chiefly from the entoderm. It must be borne in mind that other embryonic structures are developing at the same time, especially the neural canal; the mesoderm is extending cephalad along the sides of the anlage of the central nervous system as well as laterad and caudad.

As development of the mesoderm proceeds, it will be observed to be thickest along the sides of the neural canal and thinning laterad, constituting, respectively, the paraxial and lateral plate of the mesoderm.

By the appearance of a horizontal cleft in the lateral plate, the mesoderm becomes divided into two laminae—the outer or somatic, by union with the surface; ectoderm constitutes the somatopleure. The inner, or splanchnic, by union with the entoderm, constitutes the splanchnopleure.

The mesodermal cells touching this cleft cavity or primitive celom take on an epithelial character and become the mesothelial cells. The ectoderm and entoderm are epithelial from the beginning, the mesodermal cells acquiring an epithelial character. If the series of sections already referred to be studied, it will be seen that the mesodermic cells are at first distinct; that they soon form a cellular network, and then differentiate into the mesothelium and certain cells which migrate out of the mesothelial area and become more distant from each other, but connected together by protoplasmic processes and to the mesothelium, constituting the mesenchyma. The spaces between the cells are filled by a protoplasmic intercellular substance. It is possible that all of the mesodermal cells are first transformed into mesothelium and then partly into mesenchyma.

During the third week in the human embryo the paraxial mesoderm undergoes segmentation by the appearance of transverse clefts. This occurs first in the cervical region, and by this segmentation a series of quadrangular bodies or mesoblastic somites will be observed along the sides of the neural canal when the embryo is viewed dorsally and from the surface. This segmentation proceeds gradually caudad. At the same time an intermediate mass of mesoderm is

differentiated between each mesoblastic somite and the walls of the celom to constitute the nephrotome, and is primarily concerned in the development of the excretory organs of the embryo.

A study of the development of the mesoblastic somites would best be pursued by making use of some of the lower members of the phylum chordata, typically the amphioxus, where there is a distinct bilateral outpouching of the mesothelial mesial wall of the celom into the mesoblastic somites of each body segment. By this process a portion of the celomic wall becomes pinched off and enclosing a cavity. Therefore, each mesoblastic somite contains a closed cavity, the walls of which are mesothelial, and constitutes the myotome, the cavity the myocele. It is probably proper to homologize those with similar structure in the mesoblastic somites of the highest vertebrates. The somites of the earliest human embryos contain a closed myocele which early becomes closed by proliferating cells. The myotome is separated from the neural canal by a mass of mesenchyma, which differentiates into the meninges and vertebra of each segment and constitutes the sclerotome.

The myotome consists of an outer and an inner layer, the two passing into one another at the dorsal and ventral edges and are in close contact with each other as development proceeds. The outer layer stains more deeply than the inner, and is the cutis plate, or dermatome, being concerned in the development of the corium of its own segment. The inner plate is the muscle plate, or myotome proper, and develops the musculature of its own segment. Note that the myotome is mesothelial in origin and develops voluntary muscle, which are often spoken of as mesothelial muscles as distinguished from the involuntary or mesenchymal muscles. As each myotome grows dorsally it also extends ventrad between the dermatome and somatic mesoderm. As the myotomes develop, each receives a nerve supply from the nerve of its own segment, so that it is possible to trace the history of a myotome by its nerve supply, no matter what changes it may undergo; e. g., the serratus magnus is supplied by the posterior thoracic nerve, which arises from the fifth, sixth and seventh cervical nerves, and therefore is developed from the fifth, sixth and seventh cervical myotomes.

Each myotome may undergo any of the following changes:

By fusion to form a single muscle, as e. g., the serratus magnus from three myotomes.

By longitudinal splitting, as in case of the sterno-mastoideus and trapezius.

By horizontal splitting, as in case of the external and internal oblique and transversalis muscles of the abdominal wall.

By migration, as in case of the serratus magnus.

By degeneration as a whole or in part to form aponeurotic sheets, e. g., the aponeuroses of the abdominal muscles.

By change of direction of the muscular fibres, as in case of the three abdominal muscles already named.

One or more of these changes may occur in the development of a single muscle.

The limbs begin to develop in man about the twenty-first day of development as buds that grow out from the sides of the body and from several segments, as indicated, from the nerve supply to the myotomes, the latter growing out in the dorsal part of the bud and around the distal part to return to the body in the ventral part of the bud, so that several myotomes form a covering for the mesenchymal core of each bud. The myotome, or muscle-plate, is in turn covered by the dermatome or corium-plate superficially. But let it be borne in mind that the mesenchymal core develops into the skeleton and ligaments of the limb.

The myotomes of the upper or fore-limb bud grow ventrad to reach the midventral line, the ventral myotomic sheet undergoing one or more of the changes already indicated undoubtedly differentiates into the following: a cephalic portion gains a firm attachment to the developing sternum; a caudal portion that migrates dorsad to gain attachment to the thoracic and lumbar vertebral spines, and an intermediate portion which does not gain any firm attachment.

The sternal portion constitutes the pectoral mass from which the pectoral muscles have their origin, and are to be considered as intrinsic appendicular muscles. The latissimus dorsi is to be regarded similarly, but having gained a dorsal attachment, the intermediate portion develops the panniculus carnosus so well observed in many quadrupeds and attached to humerus by an axillary arch, as in the dog, horse, etc., it being that thin muscular sheet by which they shake the skin over the sides of the body, and so strongly developed in the hedgehog (*musculus orbicularis*) and ornithorhynchus.

By the nerve supply to the pectoralis major we are enabled to state that it was developed from the fifth, sixth and seventh cervical myotomes; the pectoralis major from the first dorsal myotome; the subclavius from the fourth and fifth cervical myotomes; the latissimus dorsi from the fifth and sixth cervical myotomes.

I wish to interpolate at this point that I consider that the sterno-cleido-mastoideus, trapezius, deltoid, levator anguli scapulae and rhomboidel muscles are developed from the dorsal parts of the appendicular myotomes, and by a little study can be correlated segmentally with the ventral sheet.

Comparative anatomy aids us in understanding the evolutionary development of the pectoral muscles in man, and this through the study of the primate group, viz.: lowest or quadrupedal primates, lemurs and marmosets; the lower monkeys; lastly, the anthropoid apes (orang, gibbon, chimpanzee and gorilla); man, the highest primate.

The pectoral mass consists of two layers—a superficial or ectopectoral (pectoralis major), and a deep or entopectoral (subclavius, pectoralis minor). At this point recall the origin and insertion of the pectoral muscles in man, the twisted condition of the pectoralis major at insertion, and its three portions—clavicular, costo-sternal and abdominal, the former having the lowest insertion at humerus, the latter the highest.

In the lemur (*Nycticebus tardigradus*) the deltoid is attached to the outer third of the clavicle. The ectopectoral layer has no clavicular attachment, but is attached to the midline of the sternum, the abdominal portion uniting the two planes at their caudal margins, and is interesting as being a common non-differentiated origin of the ecto- and entopectoral layers. The pectoralis minor and subclavius arise from the sternum under cover of the pectoralis major. The subclavius is broad and the pectoralis minor is rather rudimentary. A ventro-lateral thoracic panniculus is present and is attached by a well developed axillary arch which crosses the latissimus dorsi without having a direct connection with it, which, joining the abdominal non-differentiated portion, is inserted under cover of the deltoid into the lateral tubercle of the humerus and lateral surface of the shaft of the same.

In the common marmoset (*Hapale jacchus*) the pectoralis major is free at its caudal margin and attached to the sternum, as in the lemur, and the pectoralis minor is almost continuous with the subclavius and is attached to sternum as in the lemur. There is no panniculus as a distinct layer, but it would appear as if it had been shifted ventrad to constitute an abdominal pectoral, having the same relation to the pectoralis minor at insertion as in the lemur. There

is a distinct intermediate entopectoral slip between the caudal border of the pectoralis minor and the cephalic margin of the abdominal pectoral. The deltoid is attached along clavicle ventrad to the sterno-clavicular articulation.

In the sacred monkey (*Semnopithecus Entellus*) the pectoralis minor has shifted further laterad to side of sternum and some attachment to the costal cartilages, and has also moved somewhat cephalad. The abdominal pectoral is present. The axillary arch is more adherent to the latissimus dorsi and all three are inserted higher up on the humerus. In the black-backed Macaques monkey (*Macacus melanotus*) the axillary arch is more adherent to the latissimus and otherwise characters as in the sacred monkey, but less marked.

In the baboons there is a complete differentiation of the pectoralis major and minor, and there is a wide interval between the latter and the abdominal pectoral. The pectoralis minor is inserted higher up on the humerus.

In the orang (*Simia satyrus*), as a representative of the anthropoid apes, the pectoralis major has shifted laterad to costal cartilages and edge of sternum. The abdominal pectoral has united to the major, except near insertion. There is a clavicular portion to the major. The three elements are separate at insertion into humerus and show the origin of twisting of the pectoralis major tendon in man. The pectoralis minor has shifted to the costal cartilages and at insertion has gained the coracoid process of the scapula. The subclavius has also shifted laterad to the costal cartilage of the first rib. No panniculus is evident, and there is a complete disappearance of it except as an individual variation in man and the anthropoid apes.

It will be observed that in the quadrupedal primate there is no clavicular division of the pectoralis major and that this muscle is attached to the mid-line of the sternum, and that the pectoralis minor is also attached wholly to the sternum, and the less differentiated condition of the two pectoral layers and the pannicular characters should be carefully noted. The characters presented by the lemur and marmoset are of the primary type.

In the lower monkeys the characters constitute an intermediate or transitional type, and will be observed in the tendency to shift laterad of the pectoral layers on sternum to costal cartilages and also of a shifting cephalad along humerus of the pectoralis minor, the well developed axillary arch and tendency to abort by union with latissimus in the higher forms of the present type. In the baboon the pectorals are well differentiated, and a wide interval between pectoralis minor and abdominal pectoral. In the highest or secondary type the pectoralis minor has gained a clavicular portion by a shifting ventrad along clavicle of a portion of deltoid, as indicated by it occasionally being supplied by the circumflex nerve. The abdominal pectoral has united with the costo-sternum pectoral, the latter being the true pectoralis major. The pectoralis minor has origin from costal cartilages and insertion into coracoid process of scapula. The axillary arch is obsolete except as a variatum or as a rudiment in floor of axilla as a partial boundary to the foremen of Landers.

The abnormal muscles (in pectoralis minimus and costo-coracoides) in man can be readily explained as persistent parts of the panniculus plane, and are but atavistic reversions to a phyllogenetic structural condition, such conditions being normal to allied species.

The resumé was illustrated by charts, blackboard drawings, microscopical sections and dissections.

The works of Hartman, Blaschoff, Huxley, Heisler, McMunich, Minot and Geo. Huntington in *Journal of Anatomy* were drawn upon and some original work.

PUBLICATIONS.

International Clinics. Fifteenth Series, Vol. II.—Philadelphia, the J. B. Lippincott Company.

The present volume of this series is up to the usual standard, and contains the following papers:

Treatment. The Treatment of Nephritis in Childhood, by John Lovett Morse; the Therapeutic Indications of Kephir, by G. Hayem; Some Observations on the Treatment of Pulmonary Hemorrhage by Adrenalin Chlorid, by D. Barty King; Suggestions Regarding the Treatment of Neurasthenia, by Robert T. Edes; X-Ray Treatment of Tinea Tonsurans, by Sabouraud and Noire.

Medicine. Diagnosis of Incipient Thoracic Tuberculosis, by Robert N. Wilson; Uremic Psychosis, Multiple Gastric Ulceration and Diabetes Mellitus, by Solomon Solis Cohen; Galloping Typhoid, by H. Roger; Plague, by J. R. Williamson; Seasickness, by A. L. Benedict.

Surgery. Pathology and Treatment of the Hernias of Children, by Edred M. Corner; Injuries of the Prostate Gland, by G. Frank Lydston; Enlargements of the Testis and Epididymis, by Daniel N. Eisendrath; Acute Purulent Generalized Meningitis, by Lermoyez and Bellin; Intracapsular Fractures and Dislocations at the Hip Joint, by Thos. H. Manly; Traumatism as an Etiologic Factor in Infectious Diseases of the Bones and Joints, by Charles Green Cumston; Sarcoma of the Gluteal Region, by J. Garland Sherrill; Use of Scopolamin as a General Anesthetic in Surgery, by Felix Terrier.

Gynecology. Rational Therapy of Uterine Displacements, by Chauncey D. Palmer.

Ophthalmology. Clinical Significance of Exophthalmos, by Mary Buchanan.

Rhinology. Suppurative Diseases of the Accessory Sinuses of the Nose, by Norval H. Pierce.

Physiology. Ehrlich's Side-Chain Theory in Its Application to the Physiology of Digestion, by J. C. Hemmeter.

Pathology. Chromaffin System, with Special Reference to Addison's Disease and Status Thymicus, by Josef Wiesel.

A Hand-Book of Nursing.—Revised edition. Published under the direction of the Connecticut Training School for Nurses. Philadelphia, J. B. Lippincott Company.

This work was originally issued in 1878, and since that time it has passed through several editions and revisions. It is the work commonly known as the "Connecticut Hand-Book of Nursing." The present edition seems to have been considerably revised.

Chloride of Zinc as a Deodorant, Antiseptic and Germicide.—By T. B. McCLINTIC. Bulletin No. 22, U. S. P. H. and M. H. Service.

The conclusion of the monograph is that "Zinc chloride has some properties as a deodorant to recommend it favorably, but its antiseptic and germicidal powers are comparatively feeble, which, with its cost and caustic properties, practically eliminate it from the useful and reliable disinfectants."

University of California Publications.—Physiology. Vol. 2, No. 17. On the Influence of Electrolytes upon the Toxicity of Alkaloids. (Preliminary Communication).—By BRADFORD ROBERTSON.

Vol. 3, No. 1, On Chemical Methods by which the Eggs of a Mollusc (*Lottia Gigantea*) Can Be Caused to Become Mature.—By JACQUES LOEB.

Transactions of the 13th Annual Meeting of the Hawaiian Territorial Medical Society, Honolulu, Nov., 1904.

Physicians' Pocket Account Book.—By J. J. TAYLOR, M. D. Published by the Medical Council, Philadelphia.

The Work of the Interstate Commerce Commission. By H. T. NEWCOMB.

Transactions of the Arizona Medical Association for the years 1902, 1903 and 1904.

The Following Have Been Received.

Transactions of the Rocky Mountain Interstate Medical Association, 1904. Personal Views on the Management of Typhoid Fever, by Edward C. Register. Streptococcus in Gynecological Surgery, Early Diagnosis of Cancer of the Fundus, and Conservatism in Pelvic Surgery, by Hunter Robb. Historical Sketch of the Radical Mastoid Operation, by Ray Connor. Albumin in the Urine of Comparatively Healthy Children, by William A. Edwards. Comparative Anatomy of the Anterior Cerebral Artery, by William W. Lessem. Universal Method of Clinical Writing, by Professor V. Pensuti. Treatment of Simple Fractures, by Henry D. Fulton. Diagnosis and Treatment of Hemiplegia, and the Nature and Treatment of Epilepsy, by Elbert Wing. The Treatment of Gonorrhea, Advice to Gonorrheal Patients, How the General Practitioner Should Treat Gonorrhea, and Some Forensic Problems Concerning Venereal Diseases, by Ferd. C. Valentine and Terry M. Townsend. The Traumatism of Pregnancy, and Immediate Abdominal Section, by Denslow Lewis.

RESULT OF STATE EXAMINATION HELD DECEMBER 23, 1905.

PASSED.

California Med. Coll., 1904—76, 79%.
Coll. of P. & S., S. F. Cal., 1904—76%; 1905—75, 75%, 78%.
Coll. of P. & S., L. A. Cal., 1905—75%, 79%.
Cooper Med. Coll., S. F. Cal., 1905—75, 75%, 78, 82%.
Hahnemann Med. Coll. of the Pac., Cal., 1905—79%.
Univ. of Southern Cal., 1904—75%; 1905—76, 79%, 84, 87, 90%.
Bellevue Hosp. Med. Coll., N. Y., 1895—76; 1904—77%.
Cleveland Med. Coll., O., 1895—76%.
Coll. P. & S., Ill., 1901—75%; 1904—89%; 1905—79%.
Coll. P. & S., Columbia Univ., N. Y., 1900—78%; 1903—77%.
McGill Univ., Canada, 1888—85%.
Med. & Surg. Sch. of Lisbon, 1896—78.
Northwestern Univ. Med. Coll., Ill., 1905—75.
Omaha Med. Coll., Nebr., 1901—76%.
Queen's Univ., Canada, 1903—79.
University of New York, 1891—77%.
University of Pa., 1895—88%.
Univ. of Toronto, Can., 1905—79%.
University of Va., 1892—76%.
Washington University, Mo., 1903—75%.
37 passed.

FAILED.

California Med. Coll., 1903—89%; 1905—59, 72%.
Coll. P. & S., S. F., Cal., 1902—70%; 1904, 54%, 1905, 69%, 70%.
Cooper Med. Coll., S. F., Cal., 1903—57; 1904—69%.
Univ. of Southern Cal., 1904—69%, 70%.
American College of M. & S., Ill., 1905, 67%.
American Med. Missionary Coll., Ill., 1900—64%.
Bellevue Hosp. Med. Coll., N. Y., 1887—68%.
Chicago Homo. Med. Coll., Ill., 1879—63%; 1886—61%; 1903—65%.
Chicago Med. Coll., Ill., 1900—70%.
Coll. P. & S., Ill., 1888—70%.
Coll. P. & S., Iowa, 1901—63%.
Coll. P. & S., Columbia Univ., N. Y., 1901—67%.
Dearborn Med. Coll., Ill., 1904—72%.
Ensforth Med. Coll. & Hosp., Mo., 1898—63%.
Georgetown Med. Coll., Wash., D. C., 1905—13%.
Hahn. Med. Coll., Ill., 1903—64%; 1905—64%.
Harvard Univ. Med. Coll., Mass., 1887—68%.
Hosp. Coll. of Med., Ky., 1891—16%.
Jefferson Med. Coll., Pa., 1888—53%.
John A. Craighton Med. Coll., Nebr., 1903—61%.
Mich. Univ., Mich., 1872—52%.

Mo. Med. Coll., Mo., 1896—24%.
Northwestern Univ. Med. Coll., Ill., 1905—70%.
Pulte Med. Coll., O., 1900—52.
Univ. of Jena, Germany, 1868—66%.
Univ. of Iowa, 1890—61%.
Univ. Med. Coll., Mo., 1897—60%.
Univ. of New York, 1884—68%.
Univ. of Pa., 1892—71%; 1899—59%.
Univ. of Va., 1891—67%.
Univ. of Vt., 1905—70.
Woman's Hosp. Med. Coll., Ill., 1881—63%.

43 failed.

Of the 80 applicants 53.7% failed, and 46.2% passed.

The figures for the California schools are as follows:

California Med. Coll.: 1903—0 passed, 1 failed; 1904—2 passed, 0 failed; 1905—0 passed, 2 failed.
Coll. P. & S., S. F., Cal.: 1902—0 passed, 1 failed; 1904—1 passed, 1 failed; 1905—3 passed, 2 failed.
Coll. P. & S., L. A., Cal.: 1905—2 passed, 0 failed.
Cooper Med. Coll., S. F., Cal.: 1903—0 passed, 1 failed; 1904—0 passed, 1 failed; 1905—4 passed, 0 failed.
Hahnemann Med. Coll. of the Pac., Cal.: 1905—1 passed, 0 failed.
Univ. of Southern Calif.: 1904—1 passed, 2 failed; 1905—5 passed, 0 failed.

New Licentiates.

The following is the list of those who passed the December examination of the State Board:

Paul A. Adams, Geo. C. Albee, Edgar W. Alexander.
Annie Bass, Jas. C. Beatty, Albert Berger, T. W. Bishop, Jos. C. Blair, H. W. Brayton, C. R. Bricca, E. W. Burke, Wm. P. Byron.
Alvin E. Cerf, O. P. D. Cleary, Fred'k Cuttle.
Bertram C. Davies, F. W. de Escobar, J. B. de Faria.
Neil Donald Gunn.
Warren N. Horton.
P. N. Jacobson (*).
M. W. Kapp, M. M. Kay, Aquin S. Kelly, Wm. Kenney.
R. H. Mackerras, Jean M. Martin, T. M. McNamara, Jr.
J. B. Perry, H. V. Prouty.
W. J. Quinn.
P. L. Rookledge.
R. M. Smith (*), W. Fred. Stahl.
Mary C. Taylor, A. M. Tower.
S. Y. Van Meter.
A. H. White, Wm. W. Wimer (*).
Chas. E. Zerling.

REGISTER CHANGES.

Those members who desire to keep their Registers corrected up to date should check this list carefully. In the following will be found all the official changes (in California) received from the 15th to the 15th.

Bissell, Nelson C., from Pleasant Grove, Sutter Co., to Marysville, Yuba Co. Hrs. 2-4 and 7-8.
Capps, William, from St. Helena to Miglilavacca Bldg., Napa. Cohen, Albert, from Examiner Bldg. to Lincoln Bldg., 369 Sutter st., San Francisco. Hrs. 11-12 and 2-4. Cosgrave, Millicent, from 802 Sutter st. to 614 Taylor st., San Francisco. Culver, Geo. D., from add. unk. to 97 Central ave., San Francisco. Hrs. 1-3 and 7-8.
Eaton, F. B., from 590 Sutter st. to Shreve Bldg., Post and Grant ave., San Francisco. Hrs. 10-12 and 2-4. Evans, Geo. H., from 807 Sutter st. to St. Paul Bldg., 293 Geary st., San Francisco.
Gunn, F. H., from Middletown, Lake Co., to Willits, Mendocino Co.
Hastreiter, Rolland F., from 956 W. Jefferson st. to 3605½ Vermont ave., Los Angeles. Hrs. 2-4 and 7-8. Hill, Harold P., from 807 Sutter st. to St. Paul Bldg., 293 Geary st., San Francisco. Hrs. 1:30-3 and 7-8. Hinkle, B., from add. unk. to Van Nyddock appt.

* Condition removed.

* Condition removed.

* Condition removed.

San Francisco. Holbrook, Geo. S., from Tuolumne to 500 Examiner Bldg., San Francisco.

McConnell, A. B., from 717 Jones st. to 705 Sutter st., San Francisco. Hrs. 10:30-12:30 and 4:30-5:30. McKee, Albert B., from 533 Sutter st. to 590 Sutter st., San Francisco. McNaughton, Jas. A., from Half-moon Bay, San Mateo Co., to Fay Bldg., Los Angeles. Meininger, Leo Louis, from 807 Sutter st. to Central Bldg., 391 Sutter st., San Francisco.

Preston, Walter, from 454 Geary st. to 121 Geary st., Starr King Bldg., San Francisco. Hrs. 1-3 and 7-8. Prose, Thos. W., from Woodland to Thermolito, Butte Co.

Sanborn, T. G., from add. unk. to Pavia Bldg., 643 Sutter st., San Francisco. Hrs. 1-3. Selfridge, Grant, from Crocker Bldg. to Shreve Bldg., Post st. and Grant ave., San Francisco. Silverberg, Melville, from 1526 Sutter st. to 590 Sutter st., San Francisco. Stafford, Owen R., from 1147 W. 41st st., Los Angeles, to 4206 Vermont ave., Los Angeles. Strong, D. C., from Redlands to San Bernardino.

Topping, Frank P., from 533 Sutter st. to 590 Sutter st., San Francisco. Hrs. 1-3.

Weber, Louis, from add. unk. to 6th and Main sts., Los Angeles.

Yates, J. Ernest, from add. unk. to Crockett, Contra Costa Co.

New Names.

Avery, Ralph W., 1005 Fair Oaks, South Pasadena, Los Angeles Co. Northwest Univ. Med. School, '03. (C) '05. Hrs. 10-12 and 2-4.

Blair, Jas. C., 2747 Bryant st., San Francisco. Med. Dept. Univ. of Calif., '05. (C) '05. Hrs. 2-4.

Brayton, H. W., 594 Castro st., San Francisco. Coll. of Phys. and Surg., '05. (C) '05. Hrs. 2-4 and 7-8.

Cram, Chas. D., San Jacinto, Med. Coll., Ohio, '93. (C) '97. Hrs. 10-12.

Grosshauser, F., Lodi. Univ. Zurich, Switzerland, '99. (C) '01. Hrs. 1-4.

Huckins, J. W., 321 Georgia st., Vallejo. Cal. Med. Coll., '86. (C) '86. Hrs. 10-12, 1-4 and 6-8.

Hyman, Sol., 218 Stockton st., San Francisco. Johns Hopkins Univ., '02. (C) '02. Hrs. 2-4.

Johnstone, E. R., Morro. Coll. of Phys. and Surg., Keokuk, Ia., '92. (C) '96.

Kapp, M. W. (H.) Porter Bldg., San Jose. Cleveland Med. Coll., Ohio, '95. (C) '05. Hrs. 11-12 and 3-5.

McMillan, Edwin H., Redondo, Los Angeles Co. Med. Coll. Northwest Univ., '04. (C) '04. Hrs. 10-12 and 2-4.

Smith, John Lawrence, Grant Bldg., 355 S. Broadway, Los Angeles. Rush. Med. Coll., '01. (C) '01. Hrs. 1-5.

Smith, Q. C., 1055 5th st., San Diego. Med. Dept. Univ., Nashville, Tenn., '68. (C) '76.

Taylor, Mary C., 230 W. Park st., Stockton. Cooper Med. Coll., Calif., '05. (C) '05. Hrs. 2-4.

White, A. H., 504 Kearny st., San Francisco. Coll. of Phys. and Surg., San Francisco, '05. (C) '05. Hrs. 1-3.

Wilson, J. M., 36 N. Las Robles ave., Pasadena. Coll. of Phys. and Surg., Chicago, Ill., '02. (C) '05. Hrs. 11-12, 2-3 and 6:30-7:30.

New Members.

Contra Costa County—Gregory, Frank S.; Hammond, James W.; Morrison, John Mcl.; Yates, J. Ernest.

Los Angeles County—Austin, S. A.; Avery, Ralph W.; Claypole, Edith J.; McMillan, Edwin H.; Smith, John L.; Sunde, P. H.; Turner, Wm. D.; Weber, Louis; Wilson, J. E.; Wilson, J. M.

Sacramento County—Fay, Franklin G.

San Bernardino County—Bennette-Nash, A. M.; Wynne, Sidney Y.

San Francisco County—Gunn, John W.; Hinkle, B.; Hyman, Sol.; Iglick, Samuel; Magnus, Max; Maguire, Chas. S.; Silverberg, Melville.

Santa Cruz County—Phillips, Percy T.

Ventura County—Huning, F. H.; Potts, R. D.

Deaths.

Bogue, C. V., Glendale.

Castlehun, Fred'k K., San Francisco.

Failing, J. F., Los Angeles.

Finlaw, William, Santa Rosa.

Jones, Chas. W., Redding.

Kroh, W., Los Angeles.

Maynard, Henry H., Los Angeles.

Smith, Percy C., Los Angeles.

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